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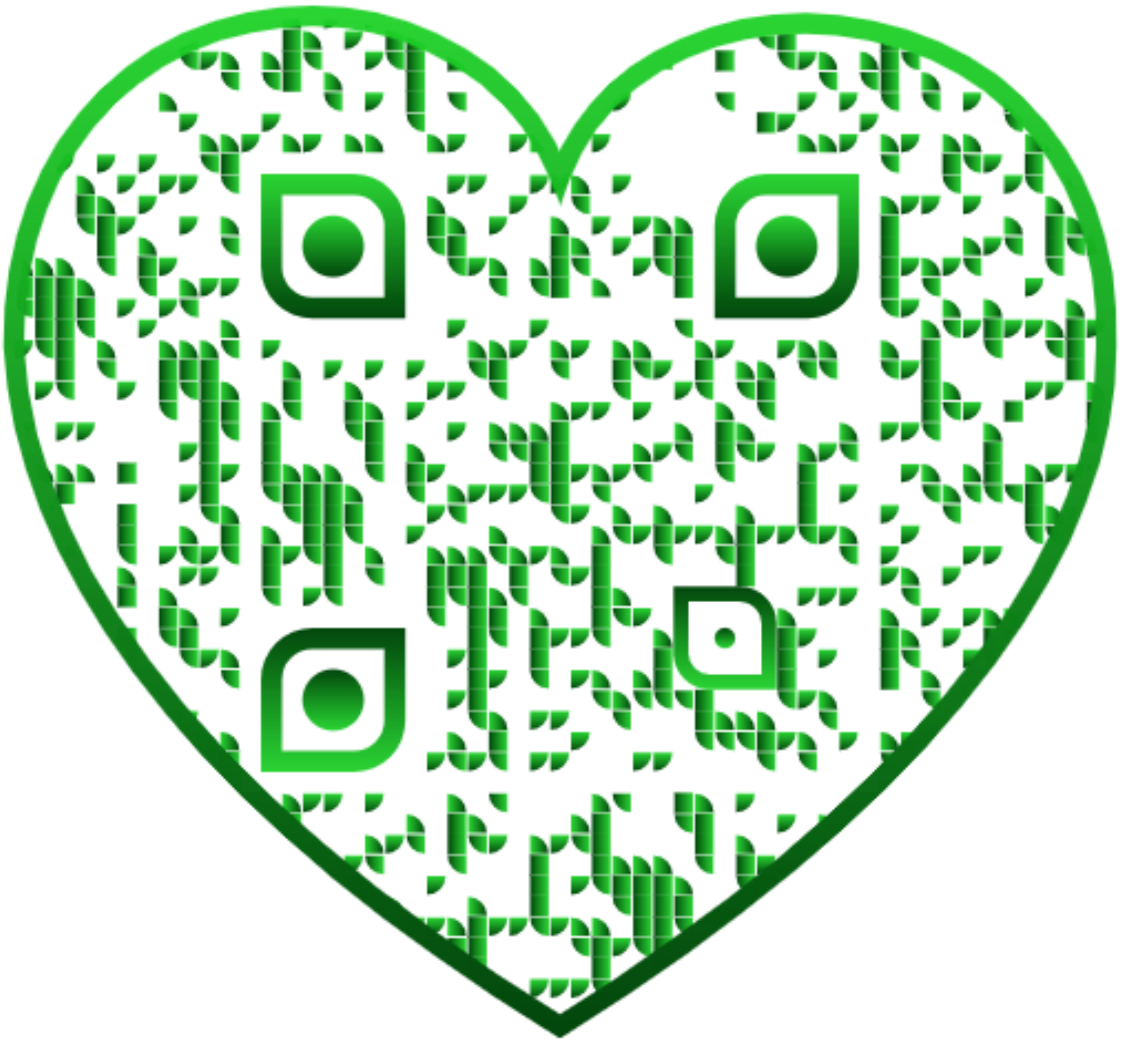

MAGICO

AS WE SEE IT

BY JIM AUSTIN

THIS ISSUE: New products and new faces.

Streaming nomenclature and new people

I recently received a letter (not yet published) suggesting a need for a glossary of newer hi-fi terms.[1] Some audiophiles raised on physical media, it seems, are perplexed by descriptions of the new streaming landscape. Just yesterday, all we had to worry about was DACs and transports. Today we have servers, streamers, players, streaming DACs, and all that.

That immediately struck me as a good idea, allied with a second reason: To avoid confusion, it makes sense for the industry to standardize the nomenclature. When we see the word "streamer," for example, we should all be thinking about the same thing.

So, here's a brief glossary of streaming-related devices. The goals are two-fold: to explain some of the newer terminology for those who haven't yet mastered it, and to encourage consistency in how the industry describes streaming components.

I'll start with the low-hanging fruit, which also happens to come first alphabetically.

DIGITAL-TO-ANALOG CONVERTER (AKA DAC, D/A CONVERTER, OR D/A PROCESSOR): This, surely, is understood by all, as the device that turns digital music data into an analog electrical signal that, when amplified and sent to loudspeakers, is perceived by the ear as music. One small bit of ambiguity remains, however: Most DACs contain integrated circuits that do the actual conversion. It's acceptable—not wrong—to refer to those microchips as DACs, but it can lead to confusion: "What DAC is in your DAC?" So, in conversations related to audio components, let's call those special microprocessors "DAC chips."

NAS: NAS stands for "network-attached storage." Because I would never write "a storage," I like to add "device" at the end: "A network-attached storage device." A NAS device is simply a file server with an IP address and an Ethernet (and, often, Wi-Fi) connection, which makes it accessible via the local network. It's a good way to store and retrieve massive amounts of music data.

A NAS device has advantages over other, more local types of storage. It's cheap. It's easy to automatically back up a NAS device to "the cloud"—that ephemeral network of distant NAS devices. A typical NAS device uses a common protocol—RAID, for redundant array of independent discs—to create redundancy, providing a measure of data security. My NAS, for example, includes 20TB worth of storage in four 5TB hard drives, resulting in (I believe) 10TB of redundant storage. If any single disc in my NAS fails, I can pull it out and replace it with no loss of data.

PLAYER: Like "transport" (below), a player can take various forms. A player plays music. Its data source may be onboard (SSD or disc transport) or off (an Ethernet/Wi-Fi renderer delivering data stored on the internet, or a NAS device). What makes it a player is a DAC and an analog output you can send to a preamplifier—or if the player has a volume control, directly to an amplifier.

SERVER: In the purest sense of the term, a server is a storage device, delivering data from its own internal hard discs or SSDs—nothing more. It may deliver that data over the network—so, a NAS is a server—or a local connection (USB, S/PDIF, etc.). Common music servers include the Innuos Statement and Roon's Nucleus.

Strictly speaking, that is all a server does, though it makes sense these days to combine a server with other capabilities, like a streamer (forming a server-streamer) and maybe also a silver-disc spinner to form an all-purpose transport (see below). A server that is also a player—that has a built-in DAC—would then be called a server-player or server-DAC (you choose). Add in a network streamer, and you've got a streamer-server-DAC.

STREAMER: The most ambiguous term in our glossary, "streamer" is commonly used in two different ways. Too commonly, the word "streamer" is used to describe a player (see above). That's no sin; it's just imprecise, or anyway, inconsistent with my formulation. Let us all settle on this definition: A streamer takes data from a network—via Ethernet or Wi-Fi—and delivers it to a DAC. The data may be local—served up from a NAS device (see above)—or it may come in over the internet, from Qobuz, Tidal, Spotify, and so on. A streamer's output, then, is digital, delivered via a local interface (not Ethernet or Wi-Fi).

TRANSPORT: Traditionally, a transport was a device that spun silver discs and extracted the data for processing by a DAC. It could refer either to a separate component, with digital outputs, or to the part of a CD player that performed this function, delivering its data over I²S to a built-in DAC. In the streaming age, it makes sense to generalize the term, to designate as "transport" any device that renders data for D/A processing, however or wherever it is stored. A streamer, then, is a form of transport, as, of course, is a silver-disc spinner.

I have often wondered why our world does not contain more all-purpose transports, combining a disc spinner, digital storage, and streamer.

Any of the above may be combined with other components—for example, you can add a streaming DAC to an integrated amplifier to form a streaming integrated amplifier, or to a preamp to form a streaming preamplifier.

So what did I miss? Let me know, and I'll be sure to include it in a future update.

This issue has two new names on the masthead. First comes Jason Davis, a talented writer with a talented set of ears, as Contributing Editor, Audio. Jason has previously written two short essays for My Back Pages, then he wrote the New Noise column at *Positive Feedback*. This issue includes his first *Stereophile* review, of the Rogue DragoN hybrid (tube/class-D) monoblock power amplifier.

Jason brings several valuable things to *Stereophile*: relative youth, an appreciation for value, and taste in music that's rather different from that of *Stereophile*'s other writers (Agalloch, anyone?). Check out the review, which starts on p.85.

The second new name on our masthead may seem familiar. Mark Henninger is the editor of *Sound & Vision*, *Stereophile*'s sister publication. He joins *Stereophile* as managing editor while continuing as *Sound & Vision*'s editor. ■

1 "Sounds Like?," J. Gordon Holt's original Glossary, was published in 1993. See stereophile.com/reference/50/index.html.

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LETTERS FEEDBACK TO THE EDITOR

TAKE HEED! Unless marked otherwise, all letters to the magazine and its writers are assumed to be for possible publication. Please include your name and physical address. We reserve the right to edit for length and content.

Frogs, woodpeckers, and Jascha Heifetz

I enjoyed Mr. Miller's essay, "Why not listen to everything?" (My Back Pages, June 2023).[1] I'm reminded of how fortunate I am to live in a calm, quiet part of Florida on a small peninsula about 5 minutes from the Atlantic. I enjoy listening to the evening sounds of the owls and birds of all kinds, the frogs after frequent rains, the working of woodpeckers the size of chickens, and the scurrying noises of squirrels and the occasional fox or racoon. So, I'm with Mr. Miller so far as how enjoyable and fulfilling it can be to take in the sounds of the natural world around us.

This doesn't diminish in any way the privilege we have with those time machines, the stereos in our listening rooms. I remain endlessly thrilled and amazed at being able to enjoy Jascha Heifetz, Frank Sinatra, Billie Holiday, Ella Fitzgerald, James Taylor, Joni Mitchell, George Harrison, or the countless other incredible artists, virtually before me in the comfort of my listening room. Any sonic shortcomings are dwarfed by the accessibility and vastly enjoyable qualities of playback through my stereo system—how else could I enjoy such musical treats?

I don't want to discount the one experience while promoting the other. Both inspire me to appreciate God's creation.

Lon Baugh
Fernandina Beach, Florida

I must express my astonishment ...

... at your answer to my letter in the September 2023 issue. $480,000 for the WAVAC 833A? Holy shit!

Barney Vincelette
Houston, Texas

Astrud Gilberto

Astrud Gilberto (see Rogier van Bakel's feature article in the September 2023 issue),[2] though not a perfect singer, made the formative years of my life much more palpable than if bossa nova had never existed. Very few singers had more of an impact on bossa nova in the US than Astrud Gilberto.

David Rosen
Livingston, New Jersey

It don't mean a thing

A letter in the January 2024 issue refers to improvisation as "what sets jazz apart from other forms of music." I would like to qualify that statement.

J.S. Bach is often credited with laying the groundwork for improvisation as we know it today. The Classical cadenza often includes improvisation. Taqsim, an Arabic genre, makes use of improvisation. So do the Indonesian Gamelan and many other genres across the globe. It is the creative way in which jazz uses improvisation that sets it apart from other forms of music.

Another key element in jazz is syncopation. Again, jazz did not invent it. Baroque music, for example, makes extensive use of syncopation.

Jeff Weiner
Scottsdale, Arizona

No doubt there are better examples, but your message brings to mind the extraordinary second movement of Beethoven's Piano Sonata No.32 in C minor, Op.111. Mitsuko Uchida said it sounds like boogie-woogie, though it came a full century before that music became popular. (Scholars trace boogie-woogie to African-American communities 50 years earlier—the halfway point in the century between Op.111 and boogie-woogie). Op.111 isn't improvised of course, but it sounds *improvised, and it is most certainly syncopated. Probably most* Stereophile *readers are familiar with Op.111; those who aren't should seek it out.*—**Jim Austin**

Jimmy Buffett

Reading Jim Austin's Records to Live For homage to Jimmy Buffett (February 2024) got me to reminisce about the life of Mr. Buffett. Although never a Parrothead, I got the vibe he sold during his 50+ year career.

My new bride and I saw him in 1979 and later in 1989. Always a good time. Last year, the same bride and I kept our grandchildren while our daughter and her husband attended one of his shows.

His death has affected me more than I thought it would, as Jimmy was always there. Like you, I'm a son of Alabama, and there was always a chance we would catch him at either his sister's restaurant/bar, or at the Flora-Bama when we were down at the Gulf.

JB was not a great writer, but he penned some great songs. "A Pirate Looks at Forty" always puts me in a reflective mood—this from the same pen that gave us "Why Don't We Get Drunk (and Screw)." Thanks for your remembrance of a couple of his albums, and thanks, Jimmy, for your three-minute getaways.

Don Clemons
Northwest Arkansas

Metal!

My voodoo incantations seem to have worked. *Stereophile* is beginning to turn into *Metallophile*! Not only Iron Maiden's *Seventh Son of a Seventh Son*, in Records to Live For (Hey, Andrey Henkin: If that's your favorite, you *must* go see the current tour; it was awesome in Bilbao!), but also Mötley Crüe and Social Distortion in Record Reviews! Here's hoping this trend continues and moves up in time, to, say, Rival Sons, Måneskin, Ghost, or Mammoth WVH. And review some lead-infused cables, which are imputed to yield a "heavier" sound. ;-D

Eric Guarin
Los Angeles, California

Appreciating your role as editor

Been wanting to drop you a note for months/years as my enjoyment of *Stereophile* has increased since you've taken the helm as editor. The magazine has improved in several ways, obvious to me and not so, such as your consistent monthly editorial, music reviews, artist reviews, and other non-gear articles.

I also appreciate Herb's contributions. He has grown to be my favorite writer of your crew. Oddly enough, I found myself increasingly irritated at his writing from his very first article (IIRC, comparing the listening experience of the Rogue Audio Sphinx to walking the rainy cobblestone streets of Paris at night, prewar: What am I supposed to do with that?!). But then I found myself either buying or evaluating the equipment he was recommending. It took me a while to recognize the irony. I've since grown to enjoy Herb's poetry and the fanciful descriptions of his musical experiences, past and present. I'm sometimes reminded of the writings of Carlos Castenada when Herb writes of past mysterious acquaintances.

Todd Lainhart
Massachusetts

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2 See stereophile.com/content/astrud-gilberto-rip.

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AUDIO NEWS & VIEWS

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HARMAN BUYS ROON

Jim Austin

Roon, the server/music-management software of choice for many audiophiles, has been sold to Harman, the parent company of Mark Levinson, Revel, and JBL as well as AKG, Harman Kardon, Infinity, and Lexicon. Since 2017, Harman has been a wholly owned subsidiary of Samsung Electronics. The sale was announced in a press release on November 27.

In that press release, Harman committed to continuing Roon's "open to all" strategy; that is, the software will not become exclusive to Harman products. "Roon will operate as a standalone Harman business with its existing team," the press release continued. "All Roon operations will stay in place and continue to be dedicated to serving and growing Roon's community of device partners and customers, under a joint mission to deliver engaging and personalized audio experiences across a universe of products and platforms."

"Our team is ecstatic to join Harman, a visionary company that has been leading the audio industry forward for decades," said Enno Vandermeer, CEO of Roon, with notable enthusiasm. "By combining forces with HARMAN, Roon gains the incredible scale, resources, and reach of a global technology leader, while maintaining our independence to invest in the business's growth and future."

So, is this deal good or bad for those of us who appreciate Roon? Online opinion has swung both ways. There are risks, I suppose: Software projects work best when they're small—too many cooks can spoil the music, so tossing Roon to Harman/Samsung *could* be problematic. That isn't likely, though, unless the new management involves itself too much in Roon's business, and it's clear from the press release that Harman understands the risks. They seem unlikely to make that mistake.

My take: Roon will continue as before, with access to more resources, for development and marketing. Those who bought a lifetime license can now rest easy, because this deal assures Roon's long-term viability. (An early adopter of Roon, I was too risk-averse back then to buy a lifetime license. I have now spent considerably more than what that license would have cost for annual renewals.)

Here's the possibility that *really* excites me, though I know it's a longshot: For years, I've thought Roon's greatest limitation was the poor quality of the data it has to work with, which, strictly speaking, is not their fault. Their software cannot, for example, distinguish among various reissues of frequently issued albums. Last I checked, Robert Palmer—he of *Sneakin' Sally Through the Alley* and "Addicted to Love," who died much too early, at age 54—was listed in the info for Miles Davis's *Kind of Blue*. Why? Because another Robert Palmer—the great music writer best known for *Deep Blues and Rock & Roll: An Unruly History*, who also died too early—wrote liner notes for one *KoB* reissue, and the two Robert Palmers got mixed up. (Robert Palmer the music writer was also listed in the Roon credits for *Kind of Blue*.)

In my fantasies, Roon develops its own extensive record-release data/metadata and so can distinguish among the various Robert Palmers and the various reissues of *Kind of Blue*, keeping track of who remastered which, who cut the lacquers, and who wrote the liner notes for each version.

No information source I'm aware of includes all that. Discogs comes closest, but it is focused more on vinyl, and it's user-curated and hardly error-free.

In my dream scenario, Roon gets the resources it needs to develop such a dataset and goes on to fulfill its immense potential, which currently seems limited by data more than programming talent. I can dream, can't I?

CALENDAR OF INDUSTRY EVENTS

ATTENTION ALL AUDIO SOCIETIES: We have a page on the *Stereophile* website devoted to you: stereophile.com/audiophile-societies. If you'd like to have your audio-society information posted on the site, email Chris Vogel at vgl@cfl.rr.com. (Please note the new email address.)

It is inappropriate for a retailer to promote a new product line in "Calendar" unless it is associated with a seminar or similar event.

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■ Friday evenings, 5–7pm PST: The San Francisco Audiophile Society hosts a virtual happy hour via Zoom. This is open to anyone who'd like to join us to talk about hi-fi and whatever else is on your mind. For more information and registration, visit bit.ly/3RyaqX9.

FLORIDA

■ February 16–18, 2024: The Florida Audio Expo will take place at the Embassy Suites by Hilton Tampa Westshore, 555 N. Westshore Blvd., Tampa, FL 33609. For more information, see floridaaudioexpo.com/contact-us.

ILLINOIS

■ April 12–13, 2024: AXPONA will take place at the Renaissance Schaumburg Hotel and Convention Center in Schaumburg, Illinois. For more information and to buy tickets, visit axpona.com.

TEXAS

■ March 15–17, 2024: A new show from the team behind the Capital Audiofest and Pacific Audio Fest, the Southwest Audio Fest will take place at the Anatole/Hilton in Dallas. For more information, see southwestaudiofest.com or contact Gary Gill or Lou Hinkley at capitalaudiofest@gmail.com or lou@pacificaudiofest.com.

CANADA: MONTREAL, QUEBEC

■ March 22–24, 2024: Presenting hi-fi for more than 35 years, the Montréal Audiofest will take place once again at the Hotel Bonaventure, 900 de la Gauchtière Ouest, Montréal, Quebec H5A 1E4. Show organizers are the same duo behind the Toronto Audiofest, Sarah Tremblay and Michel Plante. For more information, visit montrealaudiofest.org.

MUSIC HALL EVOLVES UNDER NEW OWNERSHIP

Jason Victor Serinus

Roy Hall, mastermind founder of Music Hall, one of audio's best known brands of affordable turntables and other audio components, has sold the company. Music Hall's new owner, Turntable USA, is a newly established sister company of Mobile Fidelity (MoFi), led by MoFi's James (Jim) Davis, Norbert Schmied, and Jonathan Derda, according to a MoFi Distribution press release. Under Turntable USA, Music Hall will continue to produce and evolve its well-respected line of components. MoFi Distribution will handle sales and marketing.

According to Derda, MoFi's VP of sales and marketing, Hall initially reached out to Schmied in January 2023 for help with sales. "Roy prefers to focus on product development and proposed that MoFi handle product distribution," Derda explained by phone. "Roy has always had this keen ability to find great people who can build products at low price points. He's operated on his instinct of what works best for Music Hall for the last 25 years, and he's consistently delivered high value through low-cost products." Hall will continue to be involved in developing new Music Hall products, according to the press release.

Discussions about MoFi distribution led to conversations about a Music Hall buyout. Twelve months of conversations led to a deal.

"Norbert and I have worked for and alongside MoFi owner Jim Davis for nine years," Derda explained. "We work so effectively together that Jim has allowed us to run MoFi Distribution. But this is the first time the three of us have partnered together to found and run a new company."

MoFi markets its own line of turntables under the MoFi Electronics name, designed by 'Table Master Allen Perkins of Immedia/Spiral Groove fame. Does it make sense for MoFi to handle both lines?

"First and foremost, it's about price points," Derda replied. "Music Hall has a number of very competitive and popular turntables that start well under $500. That's a price area that MoFi Electronics has not focused on until now. Music Hall also offers other affordable electronics, including the cd25.3 CD player ($649), a new, purely analog integrated amplifier ($649), and a great-sounding small headphone amp. They even have a great phono preamp that costs less than $100.

"Filling the price gap is important for me personally, because we all start somewhere. Most of us don't start with $10,000- or $100,000-per-pair speakers. If we're going to get more people involved with the high end and grow the passion for high-performance playback of music at home, the gear needs to be affordable. That's why we're hoping to expand some of Music Hall's affordable lines."

Discussion soon veered into the future of the high end and the challenges some in our industry face when trying to draw new people into the fold. Derda cited a recent experience that bodes well for the future of Music Hall under its new owner, Turntable USA.

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"Last year, MoFi was invited to sponsor a listening lounge at TED Talks in Vancouver," he said. "They had created a beautiful midcentury-style listening lounge in the middle of their convention space.

"We were visited by young, affluent people, many of whom had never handled a turntable. We had to show them how to put on the record, align the arm, and more. After people explored and listened, some tech millionaire would come up to me and say their visit was one of the best experiences of their life. But that's because we weren't playing standard audiophile fare; they were listening to Metallica and other new titles and still getting what the high-performance experience is about.

"These are the people we need to connect with. If we don't, it's because the way we show our products at shows and the music we play is often exclusionary. It doesn't speak to them.

"The best part of the show arrived every afternoon at 3:00pm. For three days in a row, an ex-music executive for one of the major labels asked if he could be our DJ for an hour. We said, 'Sure.' This guy used his phone to connect to our system and send music from Spotify via Bluetooth. Every afternoon, 50 people would flood our booth and begin dancing. The women went crazy. The biggest hit was Britney Spears's 'One More Time.' He played a lot of music I'd never heard at a show such as Bruno Mars's '24K Magic' and Florence + the Machine's 'Spectrum.' A lot of it was dance and electronic and pop—stuff that younger people listen to.

"These people were really dancing. That's the kind of emotional fun we want people to have with our products and at shows."

How many of us think of putting on our dancing shoes before attending an audio show? Not enough, perhaps.

LENBROOK SPINS OUT A NEW BUSINESS UNIT

Jim Austin

Lenbrook, the parent company of NAD, PSB, and Bluesound, has announced the creation of a new business unit, Lenbrook Media Group. According to a press release dated January 4, 2024, the new unit "will more effectively enable the commercialization and development of Lenbrook's content management solutions, as well as pursue new opportunities to fit Lenbrook's vision to offer increased choice to music fans and enthusiasts for quality audio."

The core of the new effort will be BluOS, which Lenbrook calls its "content management platform," but the group will also "oversee the growth of content encoding solutions MQA and SCL6." As reported in these pages, Lenbrook acquired the assets of MQA Ltd. in autumn 2023. Lenbrook describes MQA as "a hi-res audio packaging and delivery codec," and SCL6 (formerly known as MQair) as "an adaptive hi-res audio codec ideal for wireless and mobile applications."

The new business unit will be headed by Mike Jbara, who formerly served as MQA's CEO. Prior to that, he was an executive with Warner Music. Jbara will hold the title Vice President and General Manager of Lenbrook Media Group.

The release's description of the Lenbrook Media Group may shed light on Lenbrook's ambitions for the group and its assets. "The Lenbrook Media Group develops and commercializes digital IP for use by audio device manufacturers, creators, and broadcasters and distributors, to encapsulate and deliver high resolution audio files that retain the clarity and details of the original performances and recordings." The press release also mentions, as one of Lenbrook's brands, BlueSound Professional, "for sophisticated networked streaming commercial audio solutions."

UPSCALE DISTRIBUTION REBRANDS AS HARMONIA DISTRIBUTION

Julie Mullins

Longtime SoCal-based hi-fi distributor Upscale Audio recently announced that its distribution business Upscale Distribution was "changing its name to Harmonia Distribution." It is more than a name change, however; according to a press release, "the name change reflects a complete restructuring of the organization, moving it further away from the parent company's retail operations."

Upscale proprietor Kevin Deal said that he'll no longer be involved in the distribution side and has chosen industry stalwart David Schultz to helm Harmonia. Deal said that Schultz, whose contract for establishing and leading T+A North America was ending, came highly recommended. "Dave Schultz jibes with the way I want to work," Deal said.

David Schultz.

Why the change? "The retail business needs to be separate so that dealers feel confident that I'm on their side, because I am," he said. "I was even paying commissions, so if somebody bought a piece of PrimaLuna or a pair of Tannoys from us, and they had been to their local dealer, I was paying the dealer [a commission."

Deal told *Stereophile* that he wants to make sure all customers receive the support they need. "I want the company as a whole to be able to do a good job for customers, so there needs to be financial stability and people. You have to have good customer support."

In related news, Harmonia recently picked up loudspeaker manufacturer Fyne Audio for North American distribution.

A NEW LEADERSHIP TEAM AT BURMESTER

Jim Austin

In what is perhaps best interpreted as a final step of a move into a new era, Berlin-based Burmester Audiosysteme has announced a new leadership team. On January 1, 2024, Thorsten Poenig and Thomas Schneider assumed joint leadership at Burmester, as co-CEOs. Both are relatively new to the company. Poenig joined as Burmester's chief sales officer in 2021; previously, his most visible role was at Technics, where, a Burmester press release says, "he was responsible for establishing the sales structure and product management of the globally recognised brand." Schneider joined Burmester in 2022, responsible for the Quality Management department. In July 2023, he took on an interim job managing manufacturing.

Frank Weise, the managing director since 2021, left the company at the end of 2023, when his contract ended. Stefan Größler, Burmester CTO, also left the company, at his own request. He will, the

press release says, "retain an open role as a consultant." Ralf Schmidt takes over Größler's role in Home Audio.

Marianne Burmester, widow of founder Dieter Burmester, headed the company as managing director following Dieter's death, until Weise took over as CEO/managing director, continuing on as managing partner. She stepped down from that role at the beginning of 2024.

When Dieter died unexpectedly in 2015, the company entered a period of transition from which it now seems to have emerged, with a new, young leadership team and new amplifier designs (including the excellent 216 power amplifier I recently reviewed[1] and its larger, more powerful sibling, the 218) that retain the company's core DNA. Other new products have been introduced or are planned, including the very interesting 232 integrated amplifier. All Burmester products are manufactured in the company's retooled factory, which I visited last September during the "Key to Burmester" event.

Thorsten Poenig (left) & Thomas Schneider (right)

Dieter Burmester's significance was attested to by Jen Ekhert of Portland, Oregon, a *Stereophile* reader who wrote to me recently. Dieter Burmester, Ekhert wrote, was "not only the founder, the face, and the creative driving force behind his company. He ranks among the leading innovators in home and automotive audio, and he had—as Bill Gates once admiringly said about Steve Jobs—great taste. His audio components were not only of reference quality for reviewers and consumers all over the world; they were also works of visual art."

1 See stereophile.com/content/burmester-216-power-amplifier.

INTERNATIONAL AUDIO HOLDINGS ACQUIRES NEW PRODUCT LINE

Julie Mullins

There's a trend in the hi-fi industry for high-end brands to offer an "entry-level" product, though that term is, of course, relative, and price points vary widely by company.

International Audio Holdings (IAH), parent company to Siltech and Crystal Cable, appears to have found a way to bridge the divide between affordable audio and the luxury high end. Their recent acquisition of German Audio manufacturer HMS Elektronik will enable IAH to offer products priced a tier below most of Crystal Cable's (and Siltech's) wares and to continue the brand legacy of a longtime German audio product maker.

HMS Elektronik—HMS is an initialism for founder/head engineer Hans M. Strassner—has since 1975 manufactured cables, power filters, and other audio products for a market concentrated in and around Germany.

Husband-and-wife team Edwin Rijnveld, CEO and chief engineer, and Gabi Rijnveld,

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PR and marketing, are the forces behind Netherlands-based Siltech and Crystal Cable.

"HMS's products are complementary to ours," Gabi Rijnveld said. Even among cables, they follow a different approach from Siltech and Crystal Cable's purist, materials-focused cable designs. Their products are engineered differently and deploy more filtering technologies. In addition to cables, HMS also makes power filters and other products. Things aren't certain yet, but some designs might even inspire future Siltech or Crystal Cable components, Gabi told *Stereophile*.

Hans M. and Mrs. Strassner and Viktor de Leeuw of HMS.

Despite such synergy, both Rijnvelds and IAH Operations Director Viktor de Leeuw emphasized the company's "commitment to preserving each brand's distinct identity. HMS will continue to be an independent brand following their proven production methods."

Still, having expanded their manufacturing capacity in recent years, IAH is prepared to begin manufacturing some of HMS's products. Strassner will act as lead engineering/technical adviser during an anticipated six-month transition period.

NEW COMPANY ALERT: RHYTHM DISTRIBUTION

Julie Mullins

There's a new distribution company on the block: Rhythm Distribution, founded by former Upscale Audio employees Craig Hoffman and Randy Bingham.

Hoffman is Rhythm's managing director; Bingham serves as director of sales. Hoffman shared with *Stereophile* the company's vision of what will set Rhythm apart from other hi-fi distributors. "We do a deep dive into the brands and the market," Hoffman said. "We identify opportunities for the manufacturer that will basically inform new products down the road. We also ensure that the brand messaging is on-point from the manufacturers themselves all the way through to the dealer salesperson that will be speaking to the consumers."

Hoffman emphasized long-term thinking and close partnerships with manufacturers and dealers so that all parties can benefit.

Goldmund's Yohann Segala flanked by Randy Bingham (left) and Craig Hoffman.

At the time of this writing, Rhythm has three companies on their roster for North American distribution: English heritage companies Tannoy and Garrard, and, as of the first of this year, Swiss high-end manufacturer Goldmund, which is undergoing "a complete transformation," Hoffman said.

Goldmund founder/chief engineer Michel Reverchon's son Yohann Segala took Goldmund's reins following Reverchon's retirement about five years ago. Hoffman told me that full redesigns—both acoustic and aesthetic—are underway for Goldmund's amplification and other products.

The Garrard brand is owned by the Cadence Group, which also owns SME. SME has been refurbishing and remanufacturing classic Garrard 301 turntables since 2019.[2]

2 See Art Dudley's review at stereophile.com/content/listening-204-new-garrard-301.

NEW TUBE AMPLIFIERS FROM OCTAVE AUDIO

Tom Fine

Octave Audio of Karlsbad, Germany, recently debuted two new tubed power amplifiers, both quite large, heavy, and expensive.

The Jubilee Mono Ultimate, weighing 172lb each and costing $135,000/pair, uses eight KT170 tubes to produce 440W per channel into 4 ohms. Octave says this latest flagship "features a newly designed driver stage, a new, dedicated output tube filament heater power transformer, and a new, massive output transformer design that effectively increases secondary winding surface area by 50% while reducing distortion-inducing skin effect to vanishing levels." The company says "these developments and improvements work in harmony to bring a vast improvement in effective power bandwidth (10Hz–100kHz) [and] far superior phase precision."

The MRE 220 SE dual monoblock/single chassis amp tips the scale at 65lb and costs $28,500. It can be used with KT88, KT120, or KT150 power tubes (two per channel), with rated power ranging from 140W to 200W per channel, rated into 4 ohms. Optional "Black Box" and "Super Black Box" external power supply capacitor banks increase current reserves and help prevent ripple and sag in the power supply. "The power supply capacitance increase realized via use of the Black Box or Super Black Box stabilizes current delivery and reduces the impedance interaction of the load," according to Octave. "This improves dynamic range, separation, depth, soundstage size and articulation, rendering the musical

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reproduction clearer throughout the entire frequency range." Each Super Black Box costs $7000 and one is required for each channel for the upgrade.

Octave started out in 1968 as a transformer-winding operation eponymously named Hofmann. The founder's son, Andreas Hofmann, took an interest in audio gear and went about designing and building amplifiers, introducing the Octave brand in the late 1970s. He quickly developed a preference for tubed electronics, and that's what the company manufactures today. Octave still makes its own transformers (both power and signal-carrying) using state-of-the-art Swiss-made, computer-controlled winding machines.

Andreas Hofmann says that Octave sources its tubes from Slovakia (JJ), Russia (Electro-Harmonix, an American company that has a factory in Russia and produces several tube brands), and China. He said restrictions on Russian imports led the company to a Chinese manufacturer of the KT88 S4A Carbon power tube, the base-price offering for the MRE 220 SE.

CANTON INTRODUCES NEW REFERENCE LINEUP

Julie Mullins

Bluebird Music, the North American distributor for Canton Elektronik, recently announced, via a press release, the next generation of Canton's Reference loudspeaker lineup. The German loudspeaker maker's new Reference series supersedes the Reference K series that hit the market in 2015. (That series includes the Reference 7K[3] and the earlier Reference 7 that John Atkinson reviewed in *Stereophile*.)

Upgrades over those prior Reference editions seem comprehensive, with both external and internal parts receiving attention. Still a family-owned business, Canton Elektronik is known for developing many of their own innovative materials in-house and manufacturing their own driver units. Their new composite material,

Black Ceramic Tungsten (BCT), used in the diaphragms for their new midrange and bass driver arrays, exemplifies Canton's capabilities. As explained in the press release, "25 percent of the molecular structure of an aluminum cone is converted into a ceramic structure and refined with tungsten and additional metal particles." The tungsten helps fortify the lighter, more rigid ceramic. The result is a cone said to possess an ideal ratio of stiffness to weight. Bluebird's Jay Rein said that the new material provides a more neutral tonal balance.

Other changes include redesigned crossovers with hand-selected, low-tolerance parts. The drivers received new, asymmetrical surrounds, which act as waveguides—slightly wider on top and bottom than on the sides—made of POM (polyoxymethylene). "The mounted POM trim ring is what integrates the drive unit within the curved baffle," Rein said. "It also acts as a waveguide to control dispersion and helps ease room placement."

The cabinets, which have no flat surfaces, have also seen changes, including a smaller footprint and increased sensitivity. "The bracing and internal design is all new," Rein said.

The new Reference series comprises eight models: five floorstanders (all three-way, bass-reflex designs), a standmount two-way, a three-way center channel, and an active 75W subwoofer spec'd to extend bass down to 18Hz.

The speakers all come in either a high-gloss, "piano-grade" black or a satin white finish; a matte walnut finish is available for the second-from-the-top Reference 2 and the smallest floorstanding Reference 7 model. Prices range from $4000 for the center channel to $25,000/pair for the Reference 1.

Distributed in North America by Bluebird Music since 2021, the new Canton Reference speakers are in market now, available through authorized dealers. ■

3 See bit.ly/3oy9dBm.

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GRAMOPHONE DREAMS

BY HERB REICHERT

THIS ISSUE: Herb auditions cables by IKIGAI from the Netherlands (!) and the dCS Lina headphone amplifier.

Goosebumps, tears, and laughter

Decades ago, when I was peddling million-dollar sound systems, an astute potential customer asked me: "If I buy your very expensive system, what will I get that I'm not getting with my *less* expensive system?" Smiling my best fatherly smile, I whispered to his ear, "Goosebumps, tears, and laughter."

With a slightly worried look, he asked, "How much did you say those silver cables cost?"

Thirty years later

Changing audio cables *always* changes the sound of my system, sometimes a lot but usually just a little. Typically, the sonic effects of cable changes are modest shifts in focus, tone, or transparency. But sometimes during blue moons I've seen a new set of cables turn a blah, dull, fuzzy system into a macrodynamic, microdetailed one. Or turn a cool, mechanical-sounding system into something fierce and mammalian.

I would never blame an audiophile for thinking that specialty audio cables sound mostly the same and that buying expensive wires would be foolish. That view is justifiable because it reflects most audiophiles' experience. I felt that way myself until one day in the 1980s I went off-piste and experienced my first silver-wire cables from Kimber Kable.

Ray Kimber, who I met somehow through the *Audio Amateur* magazine crowd, called to suggest I try a loom of his new braided silver wire. His cables turned my well-behaved, even-keeled system into a macrodynamic, microdetailed fantasia. No wolves or mammoths appeared, but the clouds vanished, and the sun came out.

Before that silver sun came out, my system was wired with various gauges of generic Mouser "hookup wire," which I had discovered by using it for point-to-point wiring in the amplifiers I was building. Mouser's stranded polyvinyl-coated copper did not appear to stifle or grossly pollute signal currents, so I began fashioning all my interconnects and speaker cables from it, in my preferred colors, with Switchcraft connectors.

Changing from Mouser copper to Kimber silver interconnects and speaker cables threw a brighter, purer light on every recording. Atmospherics and the specters of performers became a more prominent part of the listening experience. Equally noticeable was how silver added something akin to a shimmering halo around the stereo apparition. I found these enhancements appealing and worth the extra cost.

A few years later, I switched to hair-thin, hand-drawn Italian silver wire from Audio Note Japan (now Kondo). Those wires, which were made entirely in-house, took data retrieval to an extreme level that forced me to coin a new descriptor—"LSD-spiderweb"—which referred to the surfeit of detail I experienced. Changing from almost-free copper to Kimber and Kondo silver was like switching from aspirin to windowpane acid provided by Owsley Stanley III. I tried those top-shelf silver cables with middle- and bottom-shelf components and discovered that their effect was pretty negligible with the bottom-row stuff but sometimes dramatically effective at upping the excitement factor of midlevel components. As a result, I have no qualms about using $4000 interconnects with a $2000 integrated amplifier.

I've been experimenting with wires since the 1970s, yet I have never experienced a compelling, frisson-inducing system at any price level that had not been carefully cable-curated.

IKIGAI Audio Kangai-level cables

Forty years later, during the summer of '23, a musician/audio dealer friend named Steve Davis (currently of Analog Matters, an importation and distribution firm located in Ormond Beach, Florida) sent me a loom of Kangai-level wires from Dutch manufacturer IKIGAI and urged me to try them "quick, just for fun" before he took them to an audio show. The last time Steve asked me to try a product, it was the Falcon LS3/5a, which I reviewed in 2015 and bought immediately. Because Steve has famously good taste and waited eight years to send me another product, I decided to give his IKIGAI wires a try.

A pair of 0.75m Kangai-level interconnects costs $3610, and a 2m speaker cable

pair is $9400. Which means that "just for fun," I wired my floor system with approximately $20,000 worth of 5N silver/24kt gold conductors. I was eager to see what these thin, flexible, well-constructed cables would do to the sound of my system, which had been carefully curated with Cardas and AudioQuest wire.

The Japanese word "IKIGAI" translates loosely to "reason for being," which suggests that their designer-manufacturer—Jeffrey Dam, in the Netherlands—is either exploiting Japanese philosophy and aesthetics for marketing purposes (possibly a good idea) or abusing hyperbole (as all manufacturers have a right to do). Either way, it's obvious that Jeffrey Dam feels confident in what he has created and builds with his own hands.

IKIGAI cables are offered at three levels. The entry level is called Sugure (Japanese for "excellent"), which is all stranded 5N silver fitted with ETI Research connectors. (IKIGAI's DIN Phono and BNC connectors are made by Furutech.) The midlevel IKIGAI, which I tried, is called Kangai, which means "emotion." Kangai adds more strands, some in 24-karat gold, and a more complex strand-weave armature. IKIGAI's highest-level cable is named Kinzan (gold); it adds more strands, more varieties of

stranding, and TIG-welded connections.

Before I seriously engage with any cable product, I need to know that it is thin, compliant, and gentle on my components' rear panels. If it lays neatly and does not attract dust bunnies, I fall in love. If it recovers above-average amounts of raw energy from a file or disc, I contemplate a long-term relationship.

IKIGAI's Kangai-level wires passed all those tests, but most notably and uniquely, they put a fun, frolicking dynamic charge on every sound coming from my speakers. They made lesser cables seem drowsy and constrained. The Kangai-level IKIGAIs brought to my system a fresh-air clarity and a "Lights, camera, action!" vibe that equaled or exceeded AudioQuest's Thunderbird, which specializes in those things.

But the IKIGAI's way was gentler. Its temper was more relaxed than that of the AudioQuest and more ethereal than a full loom of Cardas Clear Beyond, which, in striking contrast, keeps its bare feet planted in black soil under a yellow sun. In my system, Cardas Clear Beyond makes its best magic in the mid- and lower frequencies. IKIGAI's Kangai-level cables made *their* best magic in the mid- and high frequencies, where their exceptional delicacy made opera, choral, and orchestral recordings extra pleasurable.

The main thing that separated the Kangai-level IKIGAI cables from others I know, however, was how much charged, scintillating energy they wrung out of recordings. If your system leans toward cloudy or drowsy (which my systems rarely do), IKIGAI wires might elevate *vivo* and transparency.

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The dCS Lina headphone amplifier

Established in 1987, dCS is a British company that today projects a products-for-the-educated-class aura similar to the ones Linn and Naim have projected since the 1970s. Linn and Naim became famous for making analog products then later mastered digital. For nigh on 36 years, dCS has been widely respected for the sonics and engineering quality of its *digital* products. While it's part of a suite of products that includes digital parts—a DAC and a clock—this dCS Lina headphone amplifier is dCS's first all-analog amplification product.

The luxuriously matte-black Lina retails for $9750 and is designed to be part of a trio of matching components. The others are the Lina 2.0 Network DAC ($13,650) and its associated Master Clock ($7750). When used together, these components make up a three-tier, monolithic stack of serious-looking black boxes that weigh almost 50lb and that, purchased together, cost $31,150. dCS seems to have created this iconic-looking black monolith to further establish their brand in the global community of headphone aficionados. Walking around CanJam NYC 2023, it was easy to spot these unique, triple-decker monoliths from across the room. In use, it felt like an end-game headphone system. For this column, I listened only to the headphone amp and not to the DAC/Master Clock combination.

According to published specifications,[1] the Lina amplifier is a solid state, class-AB design capable of delivering 2W into 30 ohms or 0.48W into 300 ohms with balanced 'phones, or 1.6W into 30 ohms and 0.2W into 300 ohms with unbalanced. dCS doesn't specify the Lina's gain, which can be switched between Low and High from the front panel. Low is for sensitive, easy-to-drive headphones and IEMs.

High, on the other hand, is for difficult-to-drive headphones, including such planar magnetics as the 47 ohm, 89dB-sensitive Abyss or HiFiMan's 80 ohm, 83dB-sensitive Susvara. According to the section labeled "Drive" on the dCS website,[2] "The Lina amplifier's design is optimized for 60 ohms, as that is where the headphones on the difficult to drive end of the spectrum sit."

dCS says that the Lina amplifier will drive "the full 14VRMS"—RMS is for root-mean-square, which you can think of as the average voltage output; the peak output voltage will be higher than this by a factor of about 1.4—into impedances as low as 45 ohms, to ensure that headphones that require voltage are adequately driven. "The Lina Headphone Amplifier employs a topology that is sometimes called Super Class A or Class AA. This allows the amplifier to drive an impressive maximum of 4.5W per channel continuous into 45 ohms, while maintaining the excellent linearity typically associated with a Class A amplifier," John Giolas, VP sales and marketing at dCS, told me in an email.

"Like the rest of the dCS range, the Lina Headphone Amplifier uses a hybrid power supply. It features a toroidal mains transformer. This is then followed by switch-mode power supply elements, which work well at supplying the consistent DC voltage the circuitry inside the amplifier requires. The only flying lead connection inside the unit is from the transformer to the power supply circuitry—everything else is contained on the single flex rigid circuit board."

The Lina headphone amp includes three analog inputs: one stereo pair of unbalanced RCA, with an input impedance of 48k ohms; one stereo pair of buffered (high-impedance) balanced XLR; and one stereo pair of "unbuffered" balanced XLR for use with low-impedance source components including the Lina DAC. The unbuffered input utilizes shunt feedback to reduce common-mode distortion.

1 See moon-audio.com/dcs-lina-headphone-amplifier.html.
2 See dcsaudio.com/edit/lina_amp_drive.

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On the front panel are three headphone outputs: two 3-pin XLR—one each for right and left channels, plus one 4-pin XLR—and one 0.25" (6.35mm) headphone jack.

Tools for fun

My plan for this Lina report was to keep my listening system stable and reproducible by others. That meant using Denafrips's Terminator Plus DAC feeding AudioQuest's Thunderbird interconnects, alternating with the HoloAudio's Spring 3 DAC connected with Cardas's Clear Beyonds.

With HiFiMan HE R10P

When I played *Stravinsky: Histoire du soldat (version française)* (24/96 FLAC, Harmonia Mundi/Qobuz) through the Lina, powering HiFiMan's $5499 HE R10P closed-back headphones, I felt as though I was listening to a live French radio drama ca. 1920. Isabelle Faust's violin, Alexander Melnikov's piano, and Dominique Horwitz's narration were presented as if each had their own recording track and those tracks were skillfully combined into an engrossing, faux-live mix, well-suited to headphones. The sound was sharp, lucid, and emotionally affecting in a way that made me want more spoken-voice radio drama. So I switched to Antal Doráti conducting the Royal Philharmonic in a 1965 performance of Prokofiev's *Peter and the Wolf* (16/44.1 FLAC, Decca/Qobuz), with Sean Connery narrating. With the Lina driving the R10P, the crisp period sound from this Decca *Peter and the Wolf* raised hairs on the back of my neck.

To every listener's glee, *Peter and the Wolf* recordings anthropomorphize the sounds of oboes, flutes, clarinets, and bassoons in a way that gives them special powers that can last a lifetime. Listening through HiFiMan's 30 ohm, 100dB/mW–sensitive R10P headphones, those instruments' magic powers seemed greater than they did when I was a child. At any age, it's hard to have a bad day if you take time out for a big wolf, a little boy, a dumb duck, and cat sneaking through the grass.

With the Abyss AB-1266

Any claim to being a premium-level headphone amplifier must be backed up by an extraordinary listening experience with JPS Labs' Abyss AB-1266 Phi TC. The Lina did a fine job with that—but only after I remembered the gain switch on the right bottom of the front panel. Moving that switch from Low to High woke up the Abyss's planar-magnetic diaphragms, allowing for more clean volume than I would ever need. Say Hallelujah!

Listening to that Sean Connery Decca through the Lina-Abyss combo, the sound

was a touch dry compared to the tubed Feliks Envy and LTA Z10e amplifiers but well-formed, brisk, and super-transparent, with assertive beat-keeping and state-of-the-art vocal intelligibility. Plus! The Abyss and Lina were a hip, Bed-Stuylish combination. Recommendable.

With the Susvara

I'm not sure when I first heard it, but the song "Sitting on Top of the World," written by Walter Vinson and Lonnie Chatmon of the Mississippi Sheiks, seems more perfect every time I encounter it. I sense infinite meaning hidden between its lines. It was first recorded in 1930 and has been covered by everybody from Bill Monroe and Cream, to Howlin' Wolf, Jack White, and The Grateful Dead. But the version that coddles my heart most is the one by Doc Watson and Clarence Ashley on *Original Folkways Recordings of Doc Watson and Clarence Ashley* (16/44.1 FLAC, Smithsonian Folkways/Tidal).

This was the first track I tried with the Lina amplifier driving HiFiMan's renowned Susvara open backs. Watson's vocals sounded incantatory, but before I start blathering about the Susvara's easy-flowing bell-clear sound, I am required to remind you that *you* could experience this Doc & Clarence performance through the Susvara headphones powered by this dCS amp at virtually any CanJam. So don't take my word for anything—go to a CanJam, sit by a Lina stack with your ears covered by Susvara's gold-deposited nano-membranes, and listen to any type of music. Then write in and tell me if you were sitting on top of the world.

The thing the Susvara does better than its peers is expose pulsing layers of finely rendered atmospheric energy, the kind large orchestras make to power large venues. Of course, the Susvara can do pop rock and reggae, but so can lots of less-pricy headphones. But only a few elite headphones can express the subtle densities, mood shifts, and enormous scale of works like Chausson's 1896 composition "Poème, Op. 25 I & II," from the album titled *Secret Love Letters*, performed by The Philadelphia Orchestra under the direction of Yannick Nézet-Séguin with Lisa Batiashvili as violin soloist (24/96 FLAC, DG/Qobuz). With the Lina driving the Susvara, this surprise-filled Chausson unfolded with *smooth* dreamy melodic ease, a feeling of poetic grandeur, and goosebump-level violin tone.

With the Dan Clark Audio Stealth

While listening with the Susvara, I got this hunch the dCS Lina might be the exact right amp to power Dan Clark Audio's $3999 Stealth planar-magnetic closed-backs. I imagined that the Lina's strong drive and bright, sharp-focus clarity would bring out those same qualities in the 23 ohm, 86–87dB sensitive (not easy-to-drive) Stealth. It wasn't a hunch; it was a prophecy. The first recording I played, *Dock Boggs: Legendary Singer and Banjo Player* (16/44.1 FLAC, Folkways/Qobuz), came through in a manner that made Boggs's voice and banjo unusually distinct and fully formed. The air and light surrounding Dock's words were clearer and lighter in mass than I remember it being with other amplifiers. More than once, in the middle of a recording, I smiled and nodded in happy appreciation of how effectively the Stealth and Lina complemented each other.

I like it when reviews have a high point, where some component pairing exceeds my expectations and shows both products in a new light. This was one of those moments. The Lina made the Stealth play brighter,

better defined, and bolder, while the Stealth made the Lina more nuanced and painterly. A divine match.

vs the Feliks Envy

In the February 2023 Gramophone Dreams, I described how unstressed the Susvara sounded when driven by Feliks's Envy 300B headphone amp. "With most amps, the Susvara's character leans towards dark and serious," I wrote, "but the Envy erased that melancholia, substituting clear skies, sunshine, and flowers."

Not surprisingly, when I switched from the dCS Lina to the 300B Feliks Envy (with the Susvara), I first found the Lina a little dry and overcontrolled. But the Lina didn't care what I thought: It knew its overt transparency made the Envy seem hazy by comparison.

Remembering how the component that played before has a strong effect on what I notice when the new component begins playing—that order is everything—I switched back to the Lina from the Envy, whereupon I noticed how grainless the Lina was and how the Lina sounded more relaxed and less overtly declarative than I had previously thought.

Both amps displayed the kind of transparency we pay extra for, but the Envy infused its clarity with a touch of warm breathiness and a slight glimmer of luminosity. Listening to *Ellipses*, with Anastasia Kobekina on cello and Thibault Cauvin playing guitar (24/48 FLAC, Mirare/Qobuz), with Dan Clark Audio's Stealth powered by the Feliks Envy Performance Edition amplifier, I reveled in the artificial thrillingness of the recording's sound. With the Lina, my brain noticed more about the compositions and performances.

Neither the Lina nor the Envy had trouble powering the stubborn-to-drive Stealth. With both amplifiers, gain, volume, and dynamic headroom were more than sufficient. Playing *Ellipses*, the chief sonic difference between the $8995 Envy and the $9100 Lina was in the force and solidity of the sound. The Lina presented performers' images with a sculpted mass that contrasted with the Envy's gentler, more holographic presentation.

vs LTA Z10e

Linear Tube Audio's 12W Z10e integrated loudspeaker/headphone amplifier plays my Heretic AD614 speakers with rich-toned EL84 tube finesse, but it can also play electrostatic, dynamic, and planar-magnetic headphones with high levels of resolve and naturalness. It retails for $6950 and is the epicenter of my everyday music listening. Typically, the Z10e sits at arm's reach

on a shelf above my desk, but for this report I installed it in my floor system, driving my Heretics, receiving music from HoloAudio's overachieving Spring 3 DAC.

I was anxious to make this Z10e-to-Lina comparison, because there is no better way to describe the character of a new amplification product than to compare it to a well-known competing product.

For an amplifier with 10 tubes (that never seem to wear out), the Z10e does not sound noticeably tubey. The tube part of the Z10e's sound is peripheral and nonpervasive. I notice it only when it's putting a nice, slightly wet sheen on electrostatic headphone reproduction or enhancing the breathy parts of female vocals.

I noticed this vocal enhancement while enjoying Argentina's charismatic chanteuse Susana Rinaldi, who was born in 1935 and is famous for being the first woman to sing tangos. The album I'm stuck on is named after tango poet/lyricist Homero Manzi, *A Homero Manzi* (16/44.1 FLAC, RP Music/Qobuz). I'm loving it, because Rinaldi's vocals make me feel under her spell in a sensuous, intimate way. Played through the LTA-Stealth combo, Rinaldi's frisson-rendering vocals effectively accented the poetics of Manzi's lyrics. The effect was mesmerizing.

When I switched to the Lina, its superior drive better presented the cabaret drama and rhythmic dynamism of Susana Rinaldi's performance. This album's intense pathos felt more accessible with the Lina.

The chief difference between the dCS Lina and LTA's Z10e was in how they presented rhythm and transients. I would describe the Z10e's sound as *relaxed resolution*—presented with an easy flow and a touch of glow. In contrast, the dCS Lina presented detail and momentum in a more firmly structured way. Images in the soundspace were more conspicuously crystalline, and the space around them was emptier.

Conclusions

None of the above-mentioned products are inexpensive. But they are all spectacular performers, mindfully engineered to extract extraordinary amounts of low-signal truth and make listening to recordings intense and pleasurable.

I encourage all readers to audition every headphone, amp, and wire I've discussed in this article. And while you're doing that, watch out for goosebumps, tears, and laughter, because that's how you'll know if they can please for the long haul. ■

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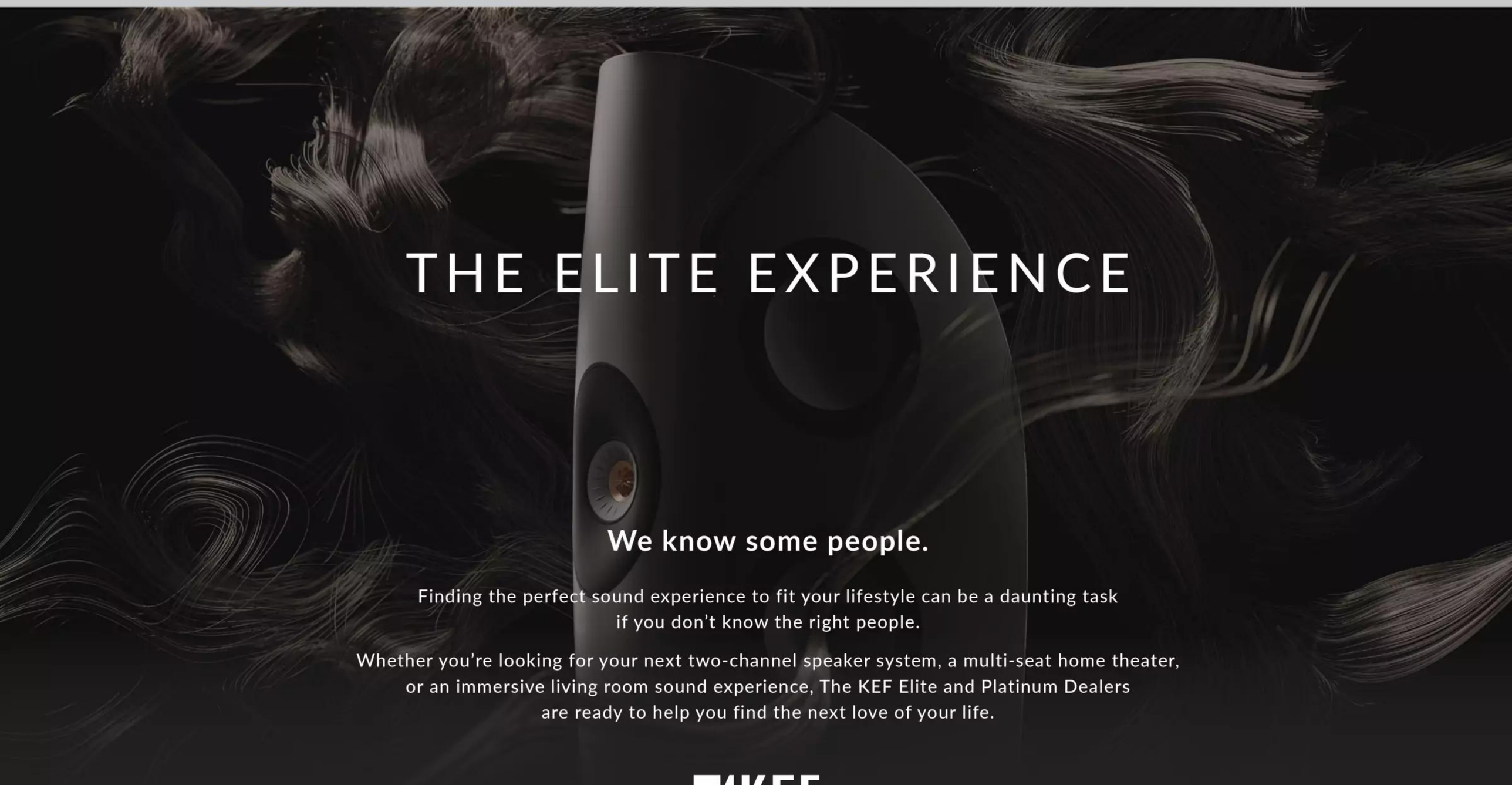

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Geoff Poor, “Batman”
Glenn Poor's Audio Video in Champaign, Illinois

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BRILLIANT CORNERS

BY ALEX HALBERSTADT

THIS ISSUE: In hi-fi, high value doesn't have to mean cheap.

The Balanced Audio Technology VK-80i tubed integrated and the Ortofon Cadenza Bronze MC phono cartridge

In 1976, a Soviet fighter pilot named Viktor Belenko made an emergency landing in Hokkaido, Japan. He was flying a MiG-25 supersonic interceptor jet and, upon touching down, requested political asylum. This proved to be a stroke of brilliant luck for the Americans. The MiG-25 remains one of the fastest and highest-flying aircraft ever produced, and Belenko's defection allowed them to have a tantalizing look at the technology inside.

After the US Air Force took the plane apart piece by piece, the Japanese returned it to the Soviets in 30 containers, charging them $40,000 for crating services. Later, the Soviets sent the Japanese a $10 million bill for missing parts. Both invoices are still outstanding. In the meantime, Belenko became a US citizen through an act of Congress and, after changing his surname to Schmidt and marrying a music teacher from North Dakota, settled in the Midwest and co-wrote a book about his ordeal. He died at age 76 in Rosebud, Illinois, this past September.

Among the top-secret loot found inside the Soviet jet was a large, heavy triode vacuum tube used as a regulator in the power supply of the MiG's radio. It was known as the 6C33C. (The enormous electromagnetic pulse caused by a nuclear explosion would fry a transistor. Tubes were used in military equipment with such an eventuality in mind.) As it happens, the 6C33C also offers unusual and promising abilities in less dire applications: remarkably high transconductance and current-handling ability combined with very low impedance. This triode can create some serious watts without requiring a heroically large or complex output transformer. In the 1970s and '80s, the Soviet military complex produced the tube in vast numbers, so new-old-stock examples are still widely available. Perhaps not surprisingly, the audio manufacturers best known for working with this device—Balanced Audio Technology (BAT) and Lamm Industries—are American companies founded by Soviet immigrants.

My introduction to this fascinating triode, with which I share a birthplace and approximate date of issue, was the BAT VK-80i integrated amplifier ($12,000). Visually, the amplifier does bring to mind the MiG and, more broadly, the Cold War aesthetic: With its fierce incised metalwork, large footprint, and LCD display on the front panel, the VK-80i looks decidedly *martial*. If you told me that the VK-80i's function was to measure the outflow of heavy water from the control rods of a nuclear reactor, I might believe you. Then again, I majored in poetry at a liberal-arts college, so deceiving me about technology doesn't require mastermind-level cunning.

The fully balanced, push-pull VK-80i produces a nontrivial 55 *triode* watts per channel from two pairs of output tubes operating in class-AB while relying on a very restrained 3dB of global negative feedback. Four 6SN7 tubes perform input duties. BAT co-founder and chief engineer Victor Khomenko (those are his initials in BAT's product names) told me that the amp can push out significantly more wattage than that. Conveniently, the BAT uses an auto-bias scheme that compensates for fluctuating line voltage and aging tubes. It also does away with internal fuses, relying instead on a protection circuit that monitors each output tube's behavior, muting the affected channel in case of malfunction.

The VK-80i allowed the recording to sound alive, saturated, and liquid.

On a recent morning, I spoke to Khomenko via Zoom. We quickly switched into our mother tongue, which I think was fun for both of us. I left the Soviet Union when I was 9 and wholly ignorant of consumer electronics, and during our confab I learned the Russian terms for things like "amplification stage" and "idling current." Thanks, Victor!

Khomenko grew up in Leningrad (present-day St. Petersburg), where he built his first reel-to-reel tape recorder at age 10 and went on to work in consumer electronics. (He's still obsessed with reel-to-reels—he sent me a photo of his listening room, on the following page, which appears to house a forest of these machines along with a pair of Avantgarde Acoustic Trio horn speakers.) In 1979, Khomenko immigrated to the US and found himself, somewhat unexpectedly, in Wilmington, Delaware. He had $400 to his name. (My family and I

arrived the following year in the somewhat more spacious environs of New York City.) He soon joined Hewlett Packard, working in gas chromatography, and had a hand in the design of the steroid testing equipment that led to Canadian sprinter Ben Johnson's disqualification at the 1988 Olympics. But his love of music—mostly classical, followed by jazz—and audio kept needling at his soul until, in 1993, he formed Balanced Audio Technology with HP colleague Steve Bednarski.

While working on the design of the first BAT power amp, the VK-60, Khomenko considered the usual beam tetrodes like the KT88 and the 6550, but decided they weren't sufficiently linear. He also ruled out large radio transmitter triodes like the 845 and 211 because of the lethal voltages and massive transformers they required. The 6C33C solved both of these problems but introduced one of its own: The tube has an unusually wide range of sample-to-sample variation and a high failure rate. According to Khomenko, during the selection process he discards a great many 6C33C-Bs. He strongly suggests that customers source replacement output tubes directly from BAT.

Khomenko is an empiricist at heart and relies heavily on computer modeling to design his gear, but he told me that the VK-80i measures no better than "pretty well." To finalize the design of their products, he and Bednarski use their ears. In a 1995 interview in this magazine, Khomenko said this to contributor Robert Deutsch:[1] "Although measurement is very important for designers, the usual measurements in typical reviews are not as meaningful for the average consumer. I think magazines like *Stereophile* should be reducing the number of measurements, not increasing them. For the average person, it's very difficult, even impossible, to predict sound quality on the basis of measurements."

My time with the VK-80i began with a bit of waiting. Initially, the left channel muted

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after a few minutes of play, and Bednarski quickly diagnosed a faulty output tube. After I replaced the left pair of 6C33C-Bs, the amp operated with nary a hiccup.

I connected my sources to one of the BAT's three single-ended inputs using Auditorium 23 interconnects, and the BAT to AC using AudioQuest's Thunder power cable and Niagara 3000 power conditioner. I took advantage of the VK-80i's high impedance (6–8 ohm) speaker outputs and 18' runs of AudioQuest ThunderBird ZERO speaker cables to connect it to the Klipsch La Scalas.

Let's listen

I've recently discovered *Pretaluz*, a 1998 record by Angolan singer Waldemar Bastos (Luaka Bop 6 80899 0029-1-2). Produced by downtown New York guitarist-singer Arto Lindsay, it features Bastos's languid tenor, which takes on a remarkable range of tone color, and a small band of Angolan and Portuguese musicians. Stylistically, the music mines a kaleidoscope of influences: Afro-pop, samba, fado, morna, as well as traditional Angolan music-and-dance forms such as semba, rebita, and kizomba. The recording, which Luaka Bop issued on vinyl for the first time in 2023, sounds vivid and rich.

Listening to the LP's opening track, "Sofrimento," I was struck by the vigor, scale, and dimensionality the BAT brought to this record. Bastos's voice issued from within a cavernous soundstage, about 10' above the La Scalas, and when the background voices came in, they were positioned well behind it. The music sounded effortless, well sorted, and perfectly controlled: Even when the arrangement got busy, I was able to easily discern and follow every element. And the sometimes startling dynamics of Bastos's singing were conveyed with beauty and bracing force and without a hint of strain, breakup, or distortion.

The VK-80i shares this majestic presentation with the Line Magnetic LM-845IA, another large-triode powerhouse, but sounds less obviously "tubey." In fact, at no point during my time with the BAT could I hear any emphases, omissions, or other deviations from a flat frequency response: It's quite possibly the most neutral-sounding tube amp I've heard. But unlike some amps that create a sense of neutrality and control at the expense of vitality and color, the VK-80i allowed the recording to sound alive, saturated, and liquid.

I'd be remiss not to mention the BAT's knack for transparency, aided by its very low noisefloor. Listening to Rachel Podger play the Suite No.3 in C Major, BVW 1009 from *J.S. Bach Cello Suites* on violin (24/192 FLAC, Channel Classics/Qobuz), I was treated to an explicit, exciting depiction of her faster-than-usual tempi and dancelike approach to pieces that, in less capable hands, can be stolid and even plodding. But the BAT also revealed how the odd decision to record Podger in a hugely reverberant recital hall obscured some of the filigree of her playing and made her sound frustratingly distant.

Further kudos to BAT for the VK-80i's stellar volume control, a 90-step resistive ladder that changes loudness in 1dB increments; the volume and active input are displayed on the front panel. Also terrific is the hefty, all-metal remote, which, in addition to the usual functions, can dim or turn off that bright blue readout. Though I haven't tested it, I'm confident it can also tenderize a veal cutlet or, with enough arm speed, disable an intruder.

What didn't I love about the VK-80i? Though its sound is difficult to criticize, compared to some favorite tube amps, like the Manley Mahi or the Ampsandsound Red October, it can come across as a bit mechanical and studious, lacking the very last measures of presence, drama, and fun. Then again, those amps lack the BAT's admirable neutrality and ability to drive

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Planar 6

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speakers of average sensitivity, so pick your poison.

Finally, in operation the VK-80i produces some positively Hadean heat—its power consumption dwarfs that of the ungodly-hot Line Magnetic—so if you live in the tropics or spend your summers in New York City, you may want to keep this in mind.

When I spoke to Victor Khomenko, I enjoyed his ex-Soviet engineer's low-key, sardonic demeanor. He struck me as intelligent, pragmatic, and decidedly not a bullshitter. His integrated amp, the least expensive one BAT makes, embodies the same qualities: the VK-80i can work in a variety of systems and sounds so good that I cannot imagine anyone disliking it. It's full of original and genuinely useful design, looks much better than it has to, and its price is entirely appropriately to its lofty level of performance. It will not produce the most ravishing sound you can hear—clearly being the work of an engineer rather than a poet—but it will extract plenty of meaning and emotion from your favorite recordings. Consider me a fan.

ORTOFON CADENZA BRONZE

Choosing a four-figure phono cartridge is a little like choosing a romantic partner. What's most important to you? Someone who shares your hobbies or politics or favorite shows? Someone with terrific friends who is kind to others? Someone who looks great naked? Or maybe someone who owns a $6.8 million oceanfront townhouse with a four-car garage and a paid-off mortgage?

Or perhaps, like the happily polyamorous, you're fortunate enough to have access to several options that you can vary according to your mood. But the main question remains: What qualities are crucial to you, and what combination makes someone a keeper?

As unusual qualities go, the one that got me interested in the Ortofon Cadenza Bronze ($2689) MC is its deliberately "flavored" tuning. Of course, every cartridge *has* a tuning, but few companies own up to it, as though any deviation from neutrality—whatever that concept may mean—is tantamount to admitting that it's okay to enjoy "colorations." In any case, according to Ortofon, each of the five cartridges in the Cadenza series was designed to have a particular sonic flavor. The Bronze, priced second from the top, is claimed to offer a touch of "romance" and "warmth."

I admit to being amused by the notion of "romance." It seems to embody the belief that in home audio, listening is supposed to be rigorous and austere, the equivalent of eating a bowl of plain yogurt. And that to *enjoy* listening is somehow decadent and unserious, like ending a nutritious meal with a sprinkles-and-chocolate-syrup-covered banana split. The notion that enjoyment is the actual point of owning a hi-fi still sits badly with the armchair Edisons of this hobby.

Such hairshirt thinking epitomizes the tuning of many phono cartridges, particularly contemporary low-output moving coils. I'm not alone in finding many of them to lack body and produce wiry, fatiguing highs. The tuning of the Cadenza Bronze struck me not so much as a flavor but simply as a fine idea. I've heard promising things about the cartridge from listeners whose taste I trust, and though I tend to

avoid venturing online to seek out anyone's opinion, a quick perusal of the interwebs suggested that the Ortofon is forgiving of mediocre recordings and makes long listening sessions easy. *That* sounded like my sort of thing.

Curious about *how* Ortofon achieves its particular tuning, I reached out to Louis Dorio of Ortofon USA. Every time I look for a simple answer, I encounter anything but, and this query proved no different. According to Dorio, the tuning of a cartridge is affected by nearly *every* design parameter, including the armature material, magnet composition, number of coil windings, coil wire, cantilever type, diamond shape, and even the way the diamond is polished. He also told me that the biggest factor influencing a cartridge's sound is the suspension design, including the choice of suspension material, correctly surmising that this opinion will make no one happy.

The 10.7gm Cadenza Bronze features a stainless steel and aluminum body, a useful output of 0.4mV, and a lowish compliance of 12µm/mN. Its tapered conical aluminum cantilever terminates in a nude Replicant stylus. Before aligning the cartridge in my Schick 12" tonearm and DS Audio HS-001 headshell, I reached out to fellow *Stereophile* columnist and record player setup expert Michael Trei. If the FBI had a division of Analog Crimes, Michael would almost certainly be appointed director. I asked him how he goes about dialing in SRA with radical stylus shapes like the Replicant, which contact the record with the leading edge of the diamond, making this parameter (and

azimuth) critical. Michael told me that to determine the correct SRA with these types of cartridges, he listens for focus and depth as he gradually adjusts arm height.

Sure enough, I found that with the Cadenza Bronze, minute changes in SRA affected not the usual frequency-response tells but instead my ability to engage with the music. When SRA was off, the music sounded subtly diffuse and rhythmically disjointed. When it was dialed in, my foot tapped metronomically.

Lately I've been losing myself in the music of Art Pepper, the West Coast saxophonist whose stark, jittery playing sometimes reminds me of a stone skimming the surface of a pond. On "Softly, as in a Morning Sunrise," from a 1973 reissue of *Gettin' Together* (Contemporary Records S7573), Pepper's alto sounded appropriately bright and incisive but also colorful and rich. Some systems can make Pepper's treble range abrasive. The Ortofon made it highly listenable and also more lifelike and *correct*: I've heard plenty of live jazz and have yet to hear a saxophone that assaults the ears. Similarly, Jimmy Cobb's hi-hat was fully present, resonant, and coppery but never crossed over into sounding like white noise. All told, Ortofon's "warm" tuning of the Cadenza Bronze proved admirably subtle, lending recordings body and presence while dialing down sizzle and hi-fi artifacts like "air." I was never aware of missing deleted highs or finding the bass overripe. To me it simply sounded more natural than many moving coil cartridges.

I'm happy to say that the Cadenza Bronze proved outstanding in most other sonic respects: It threw as large of a soundstage as the recording allowed, excavated oodles of detail, surrounded voices and instruments with plenty of space, and brought out superb dynamic expression. On "This Is the Last Day of Our Acquaintance," from a 2015 reissue of the late Sinead O'Connor's inimitable *I Do Not Want What I Haven't Got* (Ensign 0825646089505), the sudden entrance of the drums and the simultaneous upswell in volume proved exhilarating. And on "Black Boys on Mopeds," one of the most moving and effective songs ever composed about injustice, the Ortofon rendered the reverb around O'Connor's voice and the backing vocals not only clearly audible but also musically significant.

Compared to some more expensive cartridges like the Dynavector Te Kaitora Rua and the SteinMusic Aventurin 6, the Cadenza Bronze lacks a bit of texture and excitement. Its presentation isn't quite as fine-grained and intricately shaded, and it's slightly less dependable at getting at the music's dramatic core.

But the Ortofon bested every cartridge I've heard in one important respect: its ability to reject surface noise. This was particularly apparent not on really beat-up records but on those in fairly average condition. Playing sides I've heard dozens of times, the familiar, low-level crackling and hiss were simply gone. I'm not sure whether we have the radical stylus profile or another factor to thank for this, but I found the silent surfaces produced by the Cadenza Bronze downright thrilling.

The Ortofon's knack for noise suppression, along with its humane, forgiving frequency response, makes it a godsend for records that aren't "demonstration quality"—in other words, most of the records I own and love. I found myself reaching for discs that, shamefully, I've neglected simply because they are indifferently recorded or noisy. I want to apologize to these old friends—yes, I'm talking to you, Biz Markie, Mission of Burma, and Dean Martin. It was so good to hear you again. And hats off to Ortofon for creating a true music lover's cartridge. When you get over your infatuation with flashier, tizzier moving coils, you may find yourself wanting to settle down with the Cadenza Bronze. ■

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SPIN DOCTOR

BY MICHAEL TREI

THIS ISSUE: Vinyl EQ curves, tone controls, and the Mola Mola Lupe.

Tone controls, vinyl EQ curves, and the Mola Mola Lupe

Twice in the last month I have been at someone's house, servicing their turntable, when they asked whether they should be considering a new phono preamp that offers additional playback equalization curves besides the standard RIAA. My usual reaction is to thumb through their record collection, where, more often than not, I find that they don't own a single record that was cut using a curve other than RIAA.

Phono playback EQ is one of those audiophile topics that stokes some people's passions, with plenty of disagreements about how important it is. I have seen grown men get into heated discussions about the history of record EQ curves, but in truth, the subject is only likely to matter if you listen to a lot of 78s or original mono LPs pressed between the late 1940s and the mid-1950s.

Going well back into the pre–World War II 78 era, the engineers who designed record-playing systems realized that there could be two big benefits to applying some equalization to the signal before it reached the cutter head that creates the lacquer master disc. The reasons are complicated. For one thing, the energy in music peaks in the 50–100Hz range, depending on genre, and declines at higher frequencies. For another, loudspeaker drivers couple to the air less efficiently when the wavelength of the waves they're producing exceeds the transducer side by a lot.[1] Finally, a vinyl-record cutter head, with an electrical signal that is flat with frequency, results in a groove size that declines with frequency at a rate of 6dB/octave (see sidebar).

The result is that when you are cutting the squiggly grooves for a record, bass energy results in big, wide swings of the groove while high-frequency sounds produce microscopically tiny deflections. Using equalization to reduce the bass level before it reaches the cutter head allows you to make grooves that are narrower and more tightly packed, lengthening the maximum playing time of the music that can be recorded on a record side. The amount of bass cut used is pretty substantial, about 20dB, which is kind of like turning the bass knob on a 1970s receiver all the way down to the minimum.

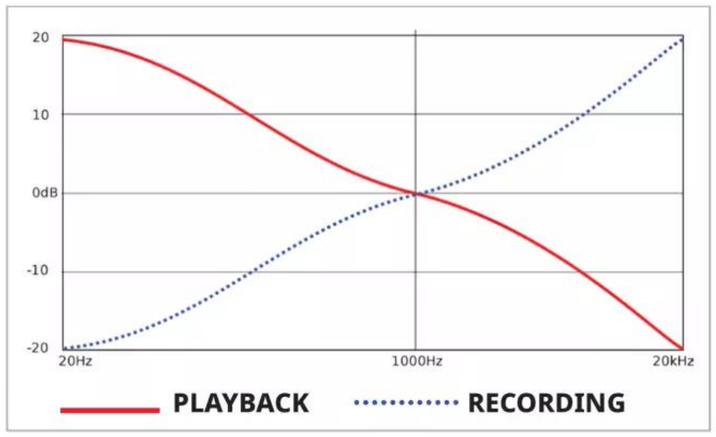
At the other end of the spectrum, they used the opposite approach, to reduce the audibility of surface noise and crackles by cranking up the high frequencies while cutting the record then turning them down again during playback. As with the bass cut, the treble boost is about 20dB, meaning that if you were to listen to the signal as it was being sent to the cutter head, there would be a 40dB tilt in the frequency response, making the sound incredibly thin and bright with no real bass to speak of.

The playback EQ curve built into your phono preamp applies the equalization in reverse, adding 20dB of bass boost while cutting the treble by 20dB, thereby returning the sound balance to its original flat frequency response. When people talk about using different playback EQ curves, they are describing relatively small adjustments to this curve, varying the amount of frequency boosting and cutting being used, along with small shifts to the precise frequencies at which the boost and cut take effect.

When the LP was launched in 1948, several different equalization standards were still around; each record label decided for itself whether to follow one of the existing standards or to create their own. To make matters worse, a lot of labels were not forthcoming about which curve they were using, making it a bit of a guessing game for phonophiles to find the right one.

It was a big mess, but in 1953, RCA Vic-

1 The wavelength of a soundwave at 100Hz, at room temperature, is just over 11'.



RIAA recording (dotted blue) and playback curves (red). When these filters are applied sequentially, the result is exactly flat. If different recording and playback curves are used, the result is a coloration in the sound.

ANOTHER WAY OF THINKING ABOUT PHONO EQUALIZATION CURVES

RIAA CURVES were discussed in detail in Keith Howard's 2009 *Stereophile* article "Cut and Thrust: RIAA LP Equalization."

In an ideal world, lacquer cutting would be done such that all frequencies take up the same amount of space. That way, all the grooves could be made to be an optimal size so that neither lows nor highs suffer from avoidable cutting-induced distortion—hence the idea of reducing bass and increasing the treble when the record is cut.

Like most (but not all) phono cartridges, a cutter head is a velocity-sensitive—not magnitude-sensitive—device, as a result of which a flat-frequency signal results in grooves in the lacquer that get smaller with increasing frequency, at a rate of 6dB/octave.

To perfectly offset this effect, pre-emphasis should be applied with a steady 6dB/octave rise throughout the audible range. That, though, would require 60dB of gain at 20kHz, which is quite a lot, so a different pre-emphasis curve was used instead. The curves adopted were less aggressive, including the RIAA curve, which is flatter than 6dB/octave below 100Hz and near 1kHz and requires a more manageable 40dB of relative gain. As long as the recording curve and playback curve are the inverse of each other, we end up in the same sonic place.

For more on the technical side, the universal adoption of RIAA, the International Electrotechnical Commission's out-of-left-field, playback-only infrasonic "fourth pole" from 1976, the Neumann ultrasonic time constant, and other phono-EQ controversies, read Keith Howard's excellent article at stereophile.com/features/cut_and_thrust_riaa_lp_equalization/index.html.—**Jim Austin**

tor proposed what they called the New Orthophonic Curve as a universal standard and encouraged the other record labels to adopt it. It had the advantage of being very similar to several other widely used curves. Within about three years, several standards organizations worldwide had adopted this curve, assigning it various names, and most of the world's record labels had settled on it. Eventually, they started to refer to the new standard by a less commercially linked name: the RIAA Curve.

While some people argue passionately that a handful of labels, especially in Europe and Asia, continued to use their own curves well into the 1960s, many of the mastering engineers making records at the time emphatically deny these claims. Which is where the heated arguments begin, with some people insisting that certain labels were still using their own non-standard curves well into the 1970s, or even the '80s. Sadly, many of the mastering engineers from that era are no longer with us to answer more questions.

To sum up the subject, several points should be made. First, while sonically significant, the differences in these curves aren't huge, so if you apply the wrong curve, you're still in the ballpark of what the engineers intended. Second, just because a record made in the '60s or '70s sounds better to you or me using a curve other than RIAA, that doesn't mean it's the intended curve.

Third, who knows what monitoring equipment those engineers were using? Even with the same curve, what they heard and what you're hearing could be quite different.

At the end of the day, these curves are tone controls, and it's fair game to prefer one setting over another even if it's not what the engineer intended back in 1962. It's nice to have choices.

THE MOLA MOLA LUPE PHONO PREAMPLIFIER

When Mola Mola first demonstrated a prototype of their Lupe phono preamp at the 2022 Munich High End show, I heard it had a whopping 72 equalization settings. I naturally assumed this was due to the wonders of digital signal processing; after all, the Dutch manufacturer was best known for class-D amplifiers and for its highly rated Tambaqui D/A converter, both designed by company co-founder and respected digital guru Bruno Putzeys. Flexing the company's well-established digital chops, the Lupe's astonishing range of adjustments and features would be relatively easy to implement.

They say you should never make assumptions, and that's true for the Lupe, because, as I soon learned, the Lupe's signal path is 100% un-messed-with analog. No DSP here.

Housed in the same half-width shoebox-shaped chassis as the Tambaqui, the Lupe also shares the Tambaqui's sculpted sinewave top cover, a bit of a Mola Mola design signature. The company says the curves help to prevent chassis resonances. They also discourage stacking—probably a good thing considering the high sensitivity of phono gain circuits to electrical interference from nearby components. The front panel is also curved and has four tiny pushbuttons corresponding to the Lupe's four presets, and a round window OLED display showing the current input and configuration.

Going around back, the Lupe is jam-packed with connectors, looking more like a typical line stage preamp than a simple phono stage. The Lupe has hookups for four tonearms, three using single-ended RCA jacks and one with balanced XLRs. Each of the three single-ended inputs has its own grounding post, so you won't be faced with the fiddly task of trying to tighten a single ground post with your third hand while holding two or three ground wire spades stacked up together in position. Outputs are also available as single-ended RCA and balanced XLR, which may be selected individually or together. Finally, there's a pair of low-voltage trigger input and output jacks, should you wish to use another component to power the Lupe on and off.

Note I referred to those four front panel buttons as presets; they are, in a sense, input selectors. I called them presets because each is completely configurable and can be assigned to receive its signal from any of the four tonearm connections. For example, if you have a tonearm with four interchangeable headshells, each with a different cartridge, you could assign that arm's input to the Lupe to all four presets, then adjust each preset's gain and loading to suit the different cartridges. Or, using the same arm and cartridge, you could have four presets to match different records in your collection. Preset one could be for modern stereo records, preset two for your collection of early Columbia mono pressings with its own EQ setting and the mono switch engaged (yes, there's a mono switch), and preset three with settings for your original British Decca mono pressings.

To help you get a handle on all this flexibility, the Lupe has a downloadable app called Mola Mola Control, available for both iOS and Android. Once installed, the app talks directly to the Lupe over Bluetooth, providing access to all the Lupe's many adjustments. Even I, a boomer analog enthusiast with less-than-stellar IT skills, found the app commendably intuitive, making it simple to explore the Lupe's many functions.

When setting up a preset, you first select which of the four inputs you are using, and whether you want the output signal to go to the RCA or XLR outputs, or both. Then you pick either moving magnet or moving coil. Most phono preamps with both moving magnet and low-output moving coil inputs simply insert an additional gain stage or step-up transformer in front of the moving magnet stage when the moving coil input is used, but the Lupe has two entirely separate phono sections, one for each cartridge type. The basic gain and loading options are optimized for each type of cartridge, the moving coil input offering six resistive loading options ranging from 60 ohms to 1k ohms, and eight

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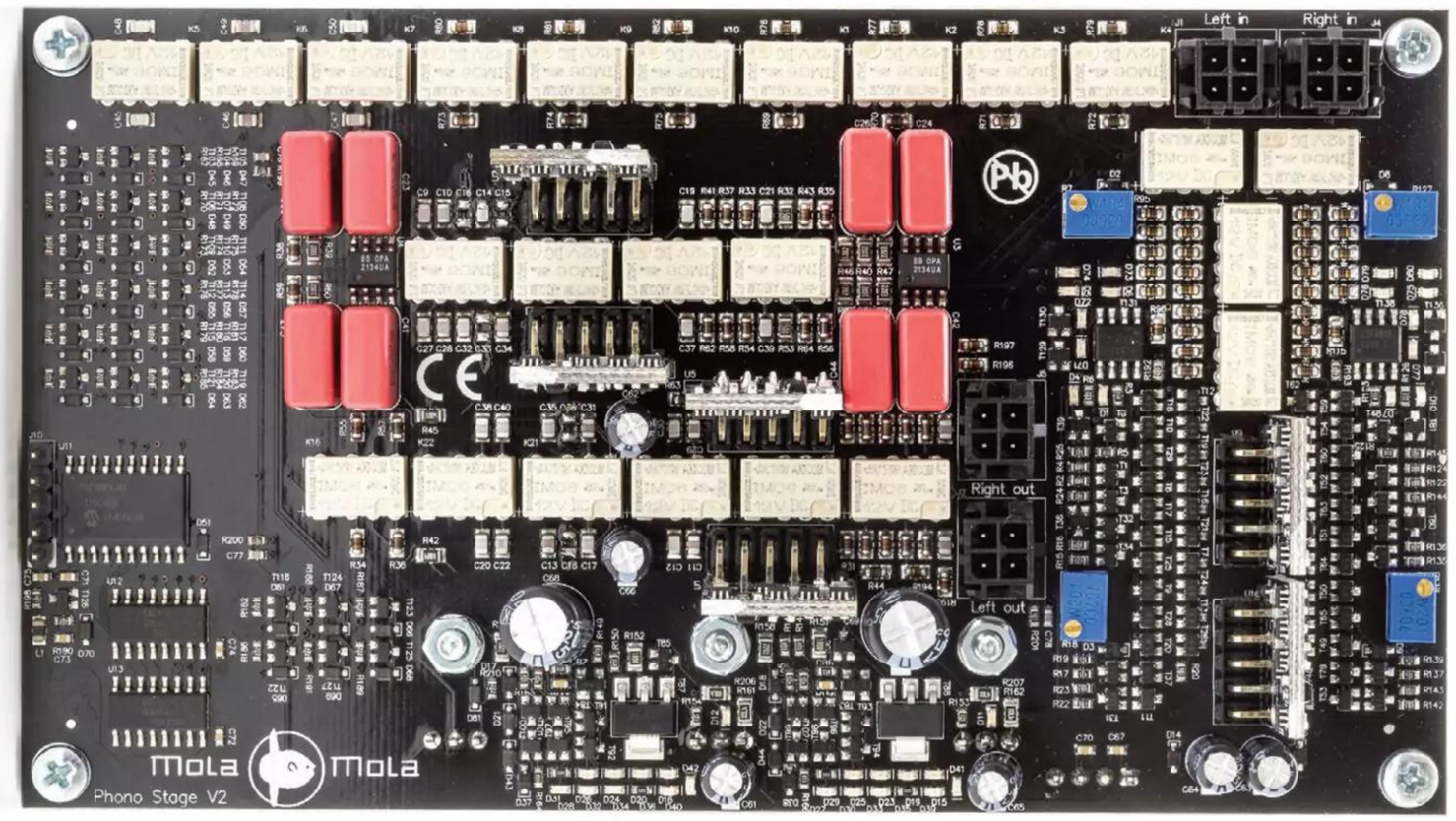
gain settings from 52dB all the way up to a whopping 87dB.

Typically, moving magnet inputs are comparatively simple, with fixed gain, a fixed 47k ohm load, and perhaps, on the fancier ones, a capacitive loading option. Japanese manufacturers have traditionally taken moving magnet cartridges more seriously, offering a wider range of moving magnet input options. For example, the Luxman EQ-500, reviewed by Art Dudley in 2016,[2] has just two settings for the moving coil input but a host of adjustments for moving magnet cartridges. The Lupe follows this lead, with five moving magnet resistance loads, from 18k ohms to 120k ohms, eight capacitive loads, from 0pF to 380pF, and two gain settings, at 45dB and 50dB. This final setting is the only place where I can foresee a cartridge compatibility issue, specifically with low-output induced-magnet cartridges like some of the better Grado and especially SoundSmith models. These cartridges require a load resistance close to 47k ohms, but their low output—as low as 0.4mV with some SoundSmith models—requires more than 50dB of gain. If you're thinking that you could simply use the higher gain moving coil input instead—well you could, but you'd run into a loading problem, with the 1k ohm maximum resistive load setting over on the moving coil side.

To explore this issue, I tried using the Lupe with my 1mV–output Grado Epoch cartridge through the moving magnet input, set to 50dB gain, and found that it was fine, with sufficient gain and very low noise. Still, I'm less confident that SoundSmith cartridges with even lower output would work as well. These are very isolated examples. With 99% of cartridges, the Lupe's adjustments will cover all bases.

Moving on: Additional controls on each preset include a mono switch, a subsonic filter, and the ability to invert the polarity of each channel. That last setting is useful when playing vertically cut records, such as Edison Diamond Discs or transcription records. Hopefully I can keep the Lupe around long enough to try this with some of the transcription records I have with Stan Maxwell's Gates turntable.[3]

Finally, the Lupe's main party trick, which some have referred to as its 72 phono equalization curves. That's actually a bit disingenuous, because probably there haven't been 72 different EQ curves used in the history of records. What the Lupe offers is 72 possible permutations of its three basic EQ variables, bass turnover, rolloff, and low shelf. You can set each of these variables individually and save them to the Custom preset, but what makes the Lupe especially user-friendly is its preprogrammed settings, listed by record label. If you're playing an early mono LP or 78, you can pick the preset by the label, and in some cases by year, without having to look up the settings on a chart and adjust them manually.



Forty-three labels are listed in addition to the Custom and RIAA, but a bunch of notable labels are missing from the list, such as Blue Note, Deutsche Grammophon, and Teldec.[4] The app allows you to update the Lupe's control firmware wirelessly, so hopefully Mola Mola will expand the record label list over time.

One odd little anomaly I spotted is that the RIAA preset's bass turnover is displayed as 315µs, rather than the correct 318µs. That difference would shift the frequency up from the nominal 500Hz to about 505Hz, admittedly a pretty insignificant difference. Perhaps it's just a typo.

One fear I have is that all these adjustments and features will distract people from the Lupe's main plus point: its extraordinary performance. Because this phono stage really made my records sing!

I was born a couple of years into the stereo LP era; I must confess that my record collection does not include an extensive selection of early mono pressings. I do have plenty of mono records, but most of them are from the late 1950s or reissues cut well after RIAA was established. I do however have a first pressing of RCA LM-1086, Brahms's 4th Symphony, with the venerable Boston Symphony Orchestra conducted by Charles Munch. This April 1950 recording was made with the legendary RCA recording team of producer Richard Mohr and recording engineer Lewis Layton, about five years before they started working in stereo to create many of the best regarded RCA Living Stereo releases. 1950 was also a couple of years before RCA was using

2 See stereophile.com/content/luxman-eq-500-phono-preamplifier.

3 See Spin Doctor #7 at stereophile.com/content/spin-doctor-7-korf-audio-ta-sf9r-tonearm-zu-audio-dl-103-mkii-rev-b-phono-cartridge-gates-0.

4 DG and Teldec were both major players in the EQ-curve game.

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the New Orthophonic curve, so the Lupe's app told me to use their early-RCA preset. Playing the record on the SME 30/2 with the Korf tonearm and Miyajima Kotetu mono cartridge, I was able to switch easily between the early RCA curve and RIAA, focusing in on the differences. But the first thing I noticed was just how clean this not-quite-three-quarters-of-a-century-old record sounded. The surfaces were smooth and quiet, and the tracking was superb, with no breakup or distortion.

Tonally, I heard two key differences between the RIAA and RCA curves. With the latter, the bottom end was leaner and tighter and the midrange opened up. With RIAA, the midrange sounded a bit more closed in and boxy and a bit thick at times.

After switching over to the Aidas Malachite Green on the SME + Korf, I played "Hey You" from my first UK pressing of Pink Floyd's *The Wall* (Harvest SHDW 411). Here, the Lupe's exceptional dynamic grip on the music, as the song ebbed and flowed, is what first caught my ear, underpinned by the fretless bass glisses, played by Dave Gilmour instead of Roger Waters, the regular PF bassist. The soundstage focus and dimensionality were equally impressive, allowing you to listen into and around each element within the image. On the following track, "Is There Anybody Out There?," the texture and body of session musician Joe DiBlasi's plucked classical guitar came across beautifully, all the subtle details of his playing presented with clarity.

The human voice was also well served by the Lupe. When I played "I Could Write a Book" from Johnny Hartman's album *Once in Every Life* (Bee Hive BH 7012), I was able to bask in the rich glow of Hartman's deep baritone. I have been using this record to evaluate equipment for over 35 years, and I can't recall any phono stage that extracted more music from it than the Lupe. In some systems, the sound of this record can edge toward brightness and sibilance, but with the Lupe, everything was impressively resolved and clean.

This is not a warm, fuzzy-sounding phono stage, but it is exceptional in its ability to take all the information a cartridge throws at it and sort it into a sound that's coherent and detailed, and it never sounds bright or hard. "Resolving" is the word that keeps popping into my head. When it comes to sorting out recordings, the Lupe can outresolve just about anything I've heard.

At $9850, its price is high, but the Lupe delivers performance that matches up well with even more costly alternatives. The versatility it offers is unmatched, making it a real Swiss Army knife for phono replay. For the serious vinyl archivist with several turntables, arms, and cartridges, I can think of no other phono preamp that offers this level of versatility. Even the extraordinary CH Precision P1, at more than three times the Lupe's price, can't quite match the flexibility you get here.

All the bells and whistles aside, I was mostly impressed by the Lupe's ability to breathe fresh life into pretty much every record I played through it. ■

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TOM FINE

Bowers & Wilkins 801 D4 Signature

LOUDSPEAKERS

Back in August, I received an email from Editor Jim Austin. Subject line: "Want to do a big review?" He had my attention. Jim wrote that he had visited Bowers & Wilkins parent company Masimo Consumer in Carlsbad, California, for a demo of the brand-new B&W 801 D4 Signature and 805 D4 Signature loudspeakers. (That visit was chronicled by Jim in the September 2023 Industry Update section.) B&W had offered *Stereophile* the first US review of both products—look for John Atkinson's review of the 805 D4 Signature in the coming months—and Jim thought the big 801s would be "right up my alley."

Indeed! The voice of my full-range system in the living room is a pair of B&W 808 speakers, ca late 1980s. The smaller-scale system at our house upstate features a pair of B&W 805 D2s. So, outside of my mastering studio, most of the music I listen to is through Bowers & Wilkins speakers. I am accustomed to and enjoy B&W sound and styling.

A whole lotta speaker, with a heritage

Before the introduction of the Signature, the standard 801 was B&W's top-line offering; "D4" indicates the design's fourth generation. The Signature Editions are occasional special releases featuring upgrades both functional and aesthetic. B&W describes Signature speakers as "the culmination of Bowers & Wilkins's enduring dedication to performance and elegance."

Compared to the standard 801 D4, the Signature Edition uses heavier bracing, upgraded bass motor systems, a flared metal, downfiring port, and extra high-quality parts in the crossover networks.[1] On the aesthetic side, there's a choice of two high-end finishes: "Midnight Blue Metallic" and "California Burl Gloss." The pair I enjoyed in my living room for two months were the former: a rich, deep, dark blue. They scored high with the Wife Acceptance Factor (WAF), though most importantly, she really dug the sound.

B&W speakers have appeared often in this magazine,[2] but the last time we reviewed the company's flagship speakers was 2011; that was Kal Rubinson's review of the 800 Diamond.[3] The company has a long history, dating from the WWII-era British MI6 service of John Bowers and Roy Wilkins. The two friends were amateur radio enthusiasts and, following VE Day, they started a radio and audio shop in Bowers's hometown of Worthing. Bowers was a classical music fan, and he wasn't satisfied with the sound of 1950s loudspeakers. He modified existing speakers, made custom units for the shop's customers, and gained a reputation among British audiophiles. One of his customers, an opera singer, bequeathed him enough money to go into speaker design full-time, leaving Wilkins to run the shop. Wilkins's son Paul was the first director of UK sales.[4]

Bowers was a science and measurements man, and to this day the company retains its science-based design philosophy. Over the years, his approach centered on keeping the bass, midrange, and treble drivers apart, in separate chambers within nonresonant cabinets. That approach continues today.

I asked Andy Kerr, B&W's director of product marketing & communications: Does the current production B&W model 801 have any resemblance or share any design characteristics with the first 801 built in 1979?[5]

"Absolutely," he replied. "When John Bowers and his team were first working on the original 801, they were inspired by the success of an earlier model, the DM7. [The] DM7, released in 1977, had taken the HF drive unit and mounted it in its own enclosure—we call it 'Tweeter on Top'—with great success. This dramatically reduced

1 See tinyurl.com/801-D4-Sig for all the 801 D4 Signature details and photos.

2 John Atkinson reviewed the 804 D4, the smallest floorstanding B&W 800 series speaker, in 2021; see tinyurl.com/804-D4-Review. Kal Rubinson reviewed the floorstanding 702-S2 in 2018; that review is at tinyurl.com/702-S2-Review.

3 The 800 model was discontinued in 2011. See Kal's review at tinyurl.com/800-Diamond-Review.

4 Here is B&W's own version of their beginnings: tinyurl.com/BW-beginnings.

5 See tinyurl.com/801-series-history.

SPECIFICATIONS

Description 3-way vented-box loudspeaker system with bottom port. Aluminum internal construction and bracing. Separate aluminum chambers for midrange driver and tweeter. Drive units: 1" (25mm) Diamond Dome tweeter; 6" (150mm) Continuum cone FST midrange; two 10" (250mm) Aerofoil Profile woofers. Crossover frequencies: 400Hz and 4kHz. Frequency range: 13Hz–35kHz, –6dB. Frequency response: 15Hz–28kHz, ±3dB. Sensitivity: 90dB/2.83V/m. Harmonic distortion: 2nd and 3rd harmonics (90dB at 1m, on-axis) <1%, 30Hz–20kHz; <0.3%, 100Hz–20kHz. Nominal impedance: 8 ohms (minimum 3.0 ohms). Recommended amplifier power 50W–1000W into 8 ohms on unclipped program. Max recommended cable impedance: 0.1 ohm.

Finishes California Burl Gloss or Midnight Blue Metallic, Black grille.

Dimensions 48.1" (1221mm) H × 17.8" (451mm) W × 23.6" (600mm) D. Weight (each speaker): 221.8lb (100.60kg).

Serial numbers of units reviewed 2320 0004093/4. Manufactured in Worthing, England.

Price $50,000/pair. Approximate number of dealers: 300. Warranty: five years from the date of purchase.

Manufacturer
B&W Group Ltd., Dale Rd., Worthing, West Sussex BN11 2BH, United Kingdom. Web: bowerswilkins.com.
US distributor:
Bowers & Wilkins North America, 5541 Fermi Ct. N., Carlsbad, CA 92008.
Tel: (800) 370-3740.

PHOTOS BY B&W

the audible impact of the cabinet on the drive unit: the cabinet baffling effect. The original 801 simply took that premise and applied it to the midrange enclosure, too. It was the first 'three-box' speaker we had developed, with dedicated enclosures for the low, medium, and high frequencies. Today's 801 D4 Signature has evolved in many ways, but its essence is just the same.

"The 801 was also designed to fulfill a dual role. It had to be accurate enough to be used as both an audiophile's ideal home reference design and also as a monitor loudspeaker in recording studios." Famously, B&W loudspeakers have long been used at Abbey Road Studios, which, after many years using B&W speakers in studio, established a formal partnership with B&W in 2017.

Kerr continued: "The latter requirement meant it also had to be sufficiently compact. ... That's because there's seldom a lot of space behind the console in a recording studio! In addition, studio engineers often move speakers around to accommodate their clients, and they wouldn't take too kindly to a speaker that required a forklift to make that possible. Even today, while the 801 D4 Signature is hardly a small speaker, it's not as large as the flagship rivals from some of our competitors.

"The original 801 was designed with a flexible midrange cone and quickly moved to adopt pistonic HF and LF drive units, in the early days using materials such as aluminum and Cobex. Today's 801 D4 Signature is no different, although the material types have evolved, ie, to Diamond, Continuum, Aerofoil.

"And finally, even the earliest 801 had the most inert cabinet we could make at the time. By 1987, although it looked similar to earlier models, it had adopted Matrix bracing—internal reinforcing structures—and its head assembly was heavily reinforced. Again, today's 801 D4 Signature is no different—just better."

I asked Kerr to put in layman's terms: What are the signature technologies in the D4 version of B&W's 800 series, and how do they apply to enjoyment of music in a real-world listening room?

John Bowers with the first 801-series speaker.

He mentioned four key principles. "Keep the cabinet as mechanically quiet as possible, give [the drivers] the most acoustically open

MEASUREMENTS

For logistical reasons, I measured one of the 801 D4 Signature speakers, serial number 2320 0004094 FP 44229, in Tom Fine's listening room rather than at my home. (My thanks to Tom and Mike Barney for moving furniture to allow me sufficient room for the measurements with the loudspeaker away from the walls and firing along a room diagonal.) I used DRA Labs' MLSSA system with a calibrated DPA 4006 microphone to measure the speaker's behavior in the farfield and an Earthworks QTC-40 mike for the nearfield responses. Because of the speaker's weight—almost 222lb—it wasn't possible to raise it off the floor. I therefore performed all the farfield measurements at a 1m microphone distance rather than my usual 50" to push back in time the reflections of its output from the floor. The measurements were performed with the vestigial grilles in place, as this was how TF had auditioned the 801 D4 Signatures.

B&W specifies the 801 D4 Signature's sensitivity as 90dB/2.83V/m, which was confirmed by my estimate of 89.8dB(B)/2.83V/m. I measured the loudspeaker's impedance with Dayton Audio's DATS V2 system. The 801 D4 Signature's impedance magnitude (fig.1, solid trace) lies between 3.5 ohms and 6 ohms through the upper bass and midrange, with a minimum value of 3.2 ohms at 90Hz. (The specified minimum impedance is 3 ohms.) However, the electrical phase angle (fig.1, dashed trace) is often high, meaning that the EPDR,[1] or effective impedance, lies below 2 ohms between 52Hz and 107Hz and below 3 ohms between 310Hz and 418Hz, between 60Hz and 1750Hz, and above 5.5kHz. The minimum

1 EPDR is the resistive load that gives rise to the same peak dissipation in an amplifier's output devices as the loudspeaker. See "Audio Power Amplifiers for Loudspeaker Loads," *JAES*, Vol.42 No.9, September 1994, and stereophile.com/reference/707heavy/index.html.

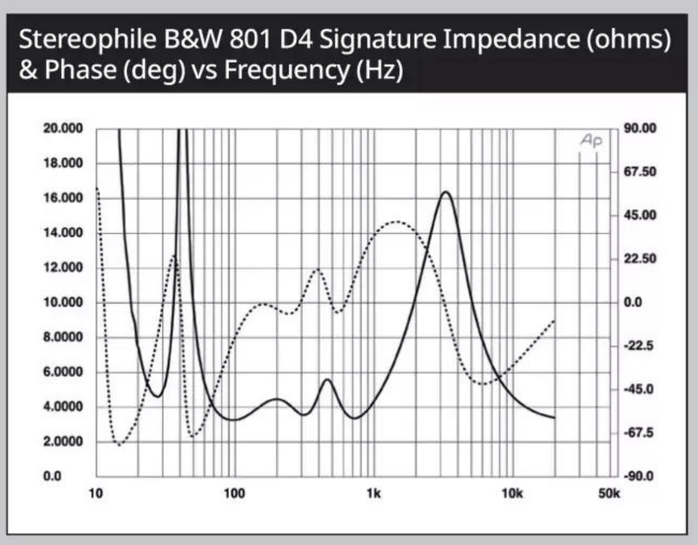

Fig.1 Bowers & Wilkins 801 D4 Signature, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

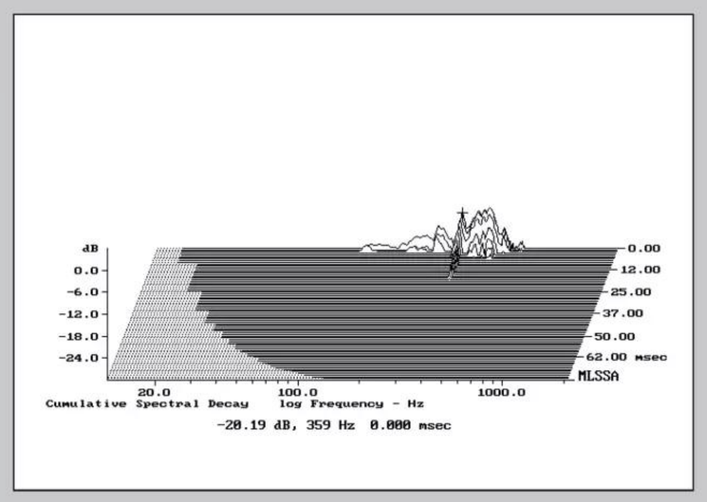

Fig.2 Bowers & Wilkins 801 D4 Signature, cumulative spectral-decay plot calculated from output of accelerometer fastened to the side of the woofer enclosure (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

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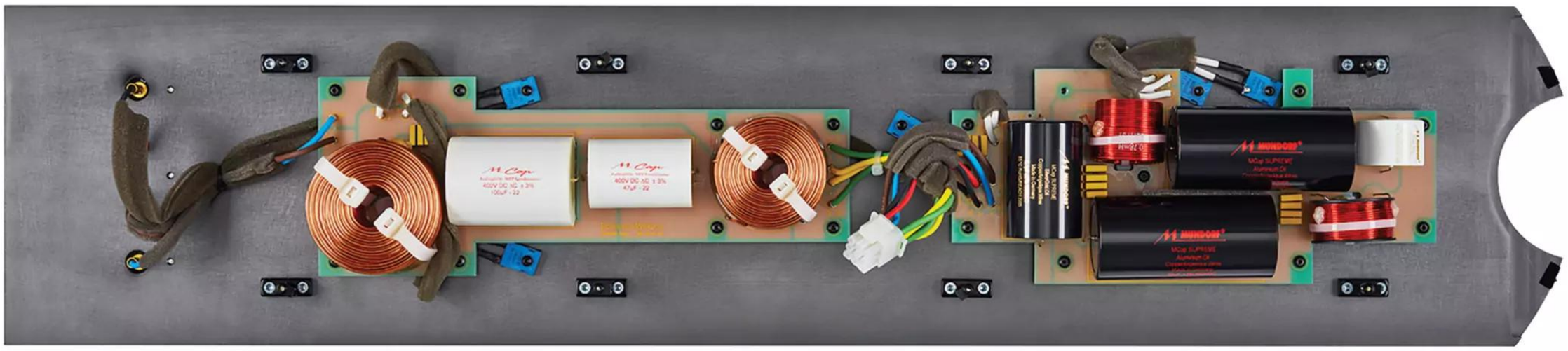

The 801 D4 Signature crossover assembly.

structure possible, ensure every drive unit is as 'clean' and low in distortion as possible, and minimize losses through the signal path.

"How does all that apply to your enjoyment of music? Great question. We don't measure or aim for a certain target in-room response. We're not tuning to a 'curve.' We develop the best engineering platform we can, and then we tune it so that we, as a group, can forget that we're listening to a pair of speakers and just get on with enjoying the listening experience. So, the target is this: Can you close your eyes and convince yourself, even for a split second, that the recording you're listening to is actually a real performer or group of performers in the room with you? If we manage to achieve that effect, we're happy. I've always said, no one buys loudspeakers to listen to loudspeakers. They buy them to listen to music."

How are these objectives achieved? The 801 D4 Signature is made mostly of aluminum, with a "reverse-wrap," multi-ply wooden shell. The woofer body is topped with an aluminum plate covered in fine leather. The midrange and tweeter chambers are all aluminum. The Diamond tweeter is made from synthetic diamond, an implementation of the "hard tweeter" concept employed by other loudspeaker companies; The idea is to maintain true pistonic operation in the audible range and raise any breakup effects—ringing or resonance—way beyond audible frequencies. Kerr told me the D4's tweeter breakup is above 70kHz. The tweeter features a longer housing to absorb more of the back wave. The midrange "Turbine Head" houses the 6" driver; the D4 version features an improved "spider" material, an open, flexible, yet stiff structure designed to reduce "secondary" output (B&W's words), which is also known as noise. The woofers fire forward and vent downward.

The 801's crossover networks (see photo above) are bolted to the interior of the metal rear panel. The Signature version includes extra bypass capacitors and upgraded parts and wiring. Kerr said the woofers are fed from a third-order low-pass filter at 400Hz, and there's a second-order high-pass at 400Hz into the midrange driver. The higher-frequency crossover consists of a second-order low-pass to the midrange and a first-order high-pass to the tweeter, both at 4kHz.

On the rear-panel exterior are two sets of five-way binding posts, LF and HF, allowing biamping or biwiring. Heavy-gauge jumper wires are included in the box. I ran the speakers single-wired, using these jumpers.

measurements, continued

EPDR values are 1.24 ohms at 72Hz, 2.3 ohms at 362Hz, 1.62 ohms at 912Hz, and 1.82 ohms at 10.6kHz. The 801 D4 Signature has one of the most current-hungry impedances I have encountered, though this will be somewhat ameliorated by the above-average voltage sensitivity.

I investigated the woofer and midrange enclosure's vibrational behavior with a plastic-tape accelerometer. When I rapped the woofer enclosure's sidewalls with my knuckles, I heard a slight "plink" with a stethoscope, which correlated with a very low-level mode at 359Hz (fig.2). The midrange enclosure was completely inert.

The impedance-magnitude plot has a saddle centered on a low 28.5Hz, which suggests that this is the tuning frequency of the downward-firing port on the woofer cabinet's base. The two woofers behaved identically; the blue trace below 440Hz in fig.3 shows the sum of their nearfield responses, which has its minimum-motion notch at the expected 28.5Hz. The nearfield response of the port (red trace) peaks between 20Hz and 50Hz, and its initial upper-frequency rolloff is very clean. While there is a peak centered on 400Hz in its output, this lies 20dB below the peak output of the woofers. The woofers cross over to the midrange unit (green trace) just above the specified 400Hz, with a fast low-pass rolloff. The farfield output of the midrange unit and tweeter (green trace above 440Hz) appears to be balanced 3–5dB higher in level than that of the woofers and is relatively uneven, with a triple-humped response.

The black trace below 300Hz in fig.4 shows the sum of the nearfield midrange, woofer, and port outputs taking into ac-

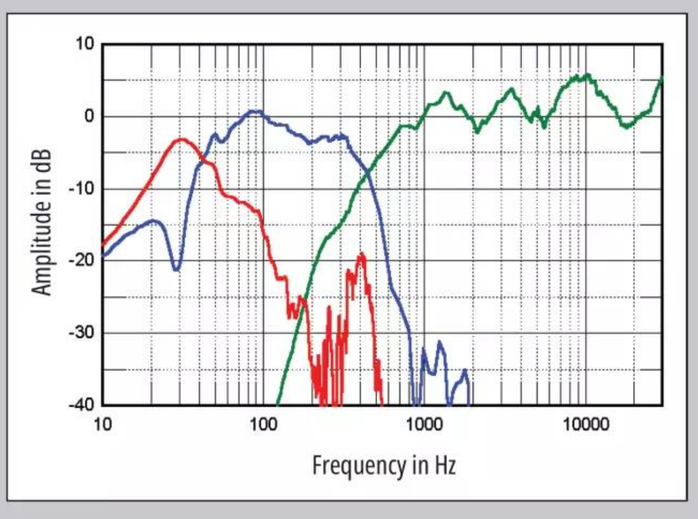

Fig.3 Bowers & Wilkins 801 D4 Signature, acoustic crossover on tweeter axis at 1m, corrected for microphone response, with nearfield midrange (green), woofer (blue), and port (red) responses respectively plotted below 440Hz, 440Hz, and 550Hz.

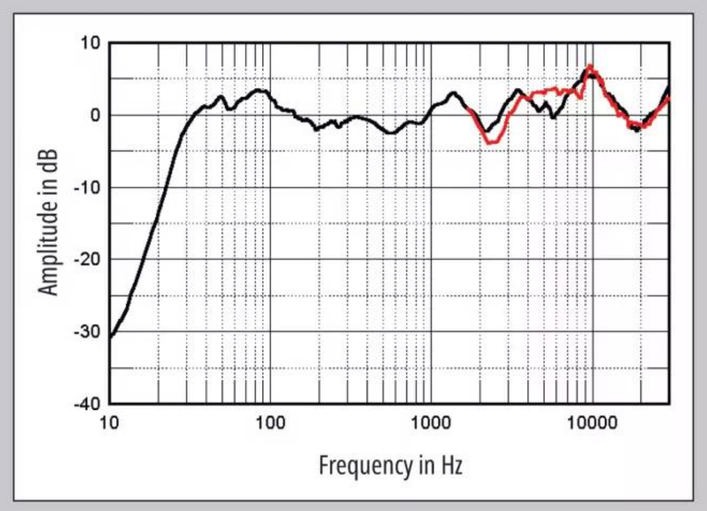

Fig.4 Bowers & Wilkins 801 D4 Signature, anechoic response, averaged across 30° horizontal window on tweeter axis at 1m (black) and on midrange axis (red), both corrected for microphone response, with the complex sum of the nearfield midrange, woofer, and port responses plotted below 300Hz.

Signature features

I asked Kerr to go deep about the differences between the 801 D4 Signature and the regular 801 D4, aside from a snazzier look and a price that's $12,000 higher. He obliged.

"The first focus is the cabinet. We've spent years looking at the impact of unwanted resonances moving through structures. We began by using a scanning vibrometer"—a laser-based device that precisely measures vibrations at any position on the cabinet—"and today we combine the data we get from that with a powerful simulation package called COMSOL Multiphysics. The aim is always to reduce unwanted excitation of structures or coloration of drive units as a loudspeaker operates. The 801 D4 Signature represents the pinnacle of our current knowledge in this area."

When the 800 D4 series was introduced in 2021, an aluminum top plate was employed. That top plate, Kerr said, made the structure much stiffer, but "it also had its own slight resonances." On the Signature model, holes are carved out of the top plate at strategic points, "which narrows the resonances in band and pushes them upwards in frequency." Those narrower, higher-frequency resonances are easier to damp, and this is accomplished using "carefully positioned Tecsound, a viscoelastic soundproofing and damping membrane." The same material was already employed in the turbine head and plinth. "The result is a significant reduction in unwanted mechanical output from the top of the cabinet, right in the critical area around the midrange cone. That has notable benefits for midrange openness and spaciousness.

"We've also revisited the port at the bottom of the speaker. On an 801 D4, the area around the port—which is a very substantial output—is critically braced with an aluminum plate, restoring stiffness to the cabinet to compensate for the large port aperture we have cut into it. In the 801 D4 Signature, we further stiffen the bottom of the speaker by replacing the plastic port ... with a cast-aluminum

count acoustic phase and the different distance of each radiator from a nominal farfield microphone position. The rise in response in the upper bass, which is due to the nearfield measurement technique, is lower in amplitude than usual. The 801 D4 Signature's low-frequency alignment appears to be optimized for definition; with the low tuning frequency of the port, boundary reinforcement will give extension to below 20Hz in a typical room. (B&W specifies the –6dB frequency as 13Hz.)

Bowers & Wilkins doesn't specify a recommended listening axis, so I took the farfield responses in fig.3 on the tweeter axis. However, as the tweeter is 47" from the floor and TF's ears with him sitting in his chair were closer to the midrange axis, which is 41.5" high, I performed response and lateral dispersion tests on both the tweeter axis and the midrange axis.

The black trace above 300Hz in fig.4 shows the B&W's farfield response, averaged across a 30° horizontal window centered on the tweeter axis. The red trace repeats the averaged response on the midrange axis. The overall balance on either axis favors the treble, with a slight lack of presence-region energy compared with the output above and below that region. I repeated the tweeter-axis response measurement with the Earthworks microphone, which is flat up to 40kHz, and MLSSA set to its maximum sample rate. There was no sign of the tweeter's fundamental dome resonance—in the measurements Paul Miller performed for *Stereophile*'s sister magazine *Hi-Fi News*, this resonance lay just below 50kHz.[2]

The 801 D4 Signature's horizontal

2 See hifinews.com/content/bw-801-d4-signature-loudspeaker-lab-report. PM's measured response is also very similar what I show in fig.4.

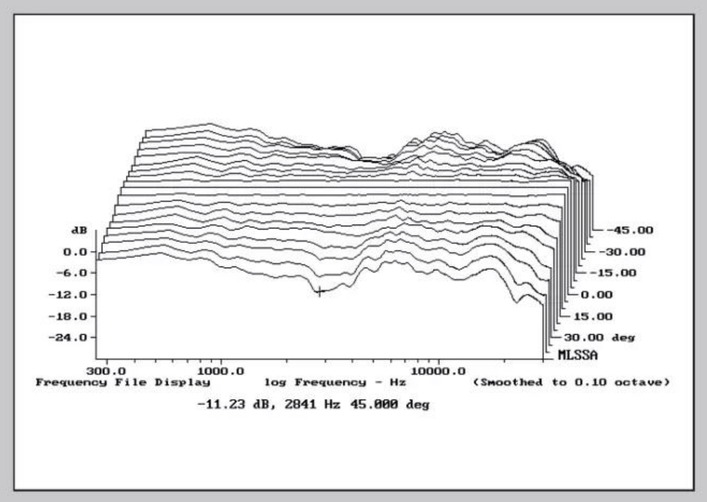

Fig.5 Bowers & Wilkins 801 D4 Signature, lateral response family at 1m, normalized to response on tweeter axis, from back to front: differences in response 45°–5° off axis, reference response, differences in response 5°–45° off axis.

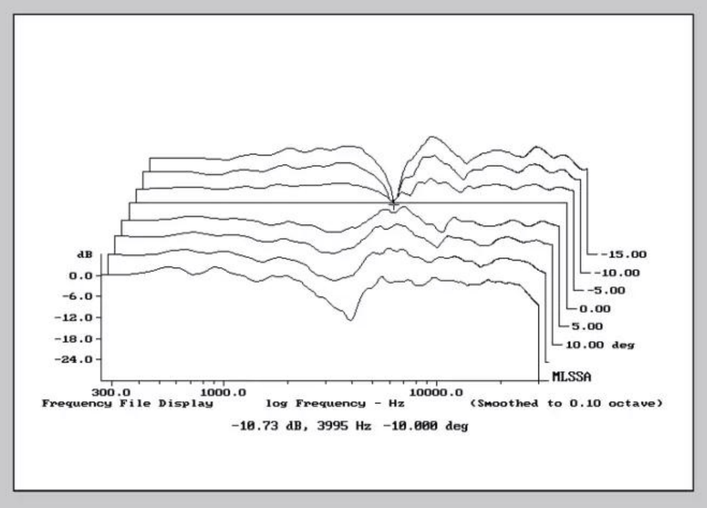

Fig.6 Bowers & Wilkins 801 D4 Signature, vertical response family at 1m, normalized to response on tweeter axis, from back to front: differences in response 15°–5° above axis, reference response, differences in response 5°–20° below axis.

port flare. Essentially, that means the whole bottom section of the speaker is now aluminum. You'll hear this in lower port noise, quicker leading edges to bass transients, and more perceived 'punch.'

"The last mechanical change is to the grille mesh pattern on the tweeter. Back in 2015, we introduced a fixed steel grille mesh with an optimized grille pattern that provided an ideal combination of openness and strength. Unlike previous generations of 800, it was designed to be used fixed in place, not removed by the user. In 2023, we've introduced an updated and improved version of this grille mesh, which is as stiff as before but notably more open, allowing more energy from the HF into the room."

The engineers felt that with the 800 D4 series, the tweeter and the midrange driver were already optimized, but there was room for improvement with the woofer. The 801 D4 Signature "uses an improved motor system with a new top plate and midplate featuring an upgraded specification of steel that leads to lower current distortion in the motor, which leads in turn to a cleaner, more accurate bass presentation.

"We've improved the crossover with new bypass capacitors, which are doubled up across the board relative to the 801 D4. ... There are 16 in total. Essentially, the new caps help the main capacitor values to work at closer to peak efficiency, giving us more resolution and at the same time a welcome refinement to the overall tonality."

B&W 801 D4 Signature D4 improved aluminum top plate, bottom view.

Finally, the cosmetics have been raised to a higher level. "We either have California Burl, a sustainably sourced Alpi veneer, engineered from real wood with very dramatic figuring and texture, or we have Midnight Blue Metallic, the same paint we use on our Nautilus. Both finishes are prepared to the highest of standards before receiving paint and/or lacquer, with the final surface preparation being done by 3000-grit sandpaper. California Burl has a total of 14 coats of lacquer. Midnight Blue Metallic has a combination of 11 coats of paint and lacquer. Midnight Blue Metallic is also trimmed in matching blue leather by Connolly," the company that provides interior leather to McLaren and other luxury car makers.

Getting the speakers in place

In early October, a pair of Midnight Blue Metallic 801 D4 Signatures arrived in two large cardboard boxes bound to a pallet, total weight: 600lb. Into the picture stepped David Woodward, owner of Home Media Designs in Ridgefield, Connecticut, a nearby Bowers & Wilkins dealer, and two strong-backed associates, Frank Silvi and P.J. Mihalick. The fellas arrived with an appliance dolly, designed

measurements, continued

dispersion, normalized to the tweeter-axis response, is shown in fig.5. (Even though the speaker was firing along the room's diagonal, the geometric limitations of TF's room meant that I could only measure the differences in response up to 45° from each side of the speaker instead of my usual 90°.) The lack of presence-region energy on-axis is accentuated to the speaker's sides, but the contour lines in this graph are otherwise even, implying stable stereo imaging. In the vertical plane (fig.6), a suckout develops at 4kHz 10° above the tweeter axis, which confirms the upper crossover frequency. However, as also shown by the red trace in fig.4, there is more mid-treble energy below the tweeter axis.

The 801 D4 Signature's step response (fig.7) indicates that all four drive units are connected in positive acoustic polarity. The tweeter's output arrives first at the microphone, and the decay of its step blends smoothly with the start of the midrange unit's step. The decay of the midrange step then blends smoothly with the start of the woofers' step. The B&W's cumulative spectral-decay plot (fig.8) is clean in the region covered by the tweeter, though some low-level delayed energy is present in the treble. There is also some delayed energy associated with the on-axis peak just above 1kHz.

The 801 D4 Signature's measured performance indicates that the treble balance is on the bright side of neutral, which might be exaggerated by the lack of energy at the top of the woofers' passband and in the presence region. But I was impressed by the extremely quiet enclosures and the extended low frequencies.—**John Atkinson**

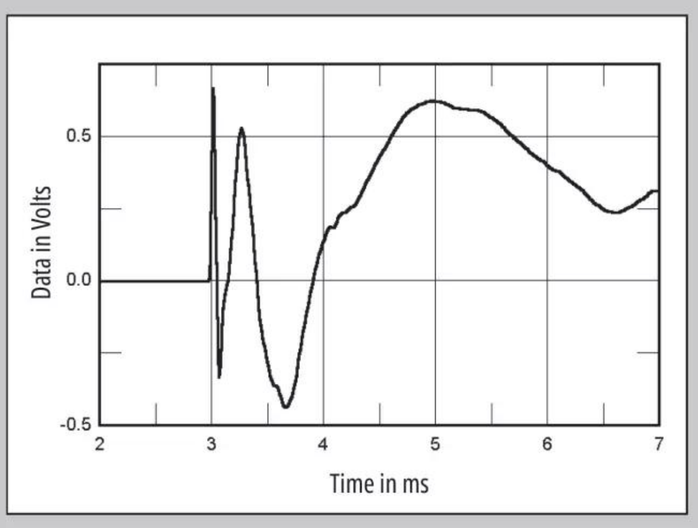

Fig.7 Bowers & Wilkins 801 D4 Signature, step response on tweeter axis at 1m (5ms time window, 30kHz bandwidth).

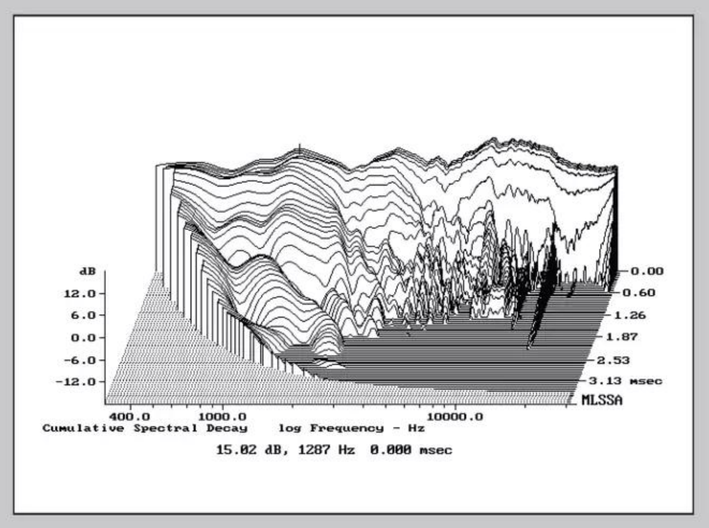

Fig.8 Bowers & Wilkins 801 D4 Signature, cumulative spectral-decay plot on tweeter axis at 1m (0.15ms risetime).

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to heft stoves and washing machines up flights of stairs, and some straps. They made short work of moving my 808s out of the way and putting the 801s roughly in place.

B&W packs these speakers in a clever four-piece box that holds together tightly but comes apart easily. A heavy plastic ramp is built in to the box to roll out the speakers, which are shipped with casters already installed. I kept the speakers on the casters until positioning was optimized.

I spent a couple of weeks running them in, loud and hard and soft and sweet, playing all kinds of music, internet radio—even using them as the world's most expensive TV speakers, all in the interest of loosening them up and getting them to their ideal operating condition. Over that time, I didn't hear much change in the top end or midrange, but the bass got bigger, especially deep bass. On J.S. Bach's *Toccata, Adagio and Fugue*, played by Virgil Fox on the direct-to-disc LP *The Fox Touch Volume One* (Crystal Clear Records CCS-7001), the famous growl and rumble of the biggest pipes in the former Crystal Cathedral was satisfyingly room-shaking after this multiday sound workout, whereas at first it sounded too constrained.

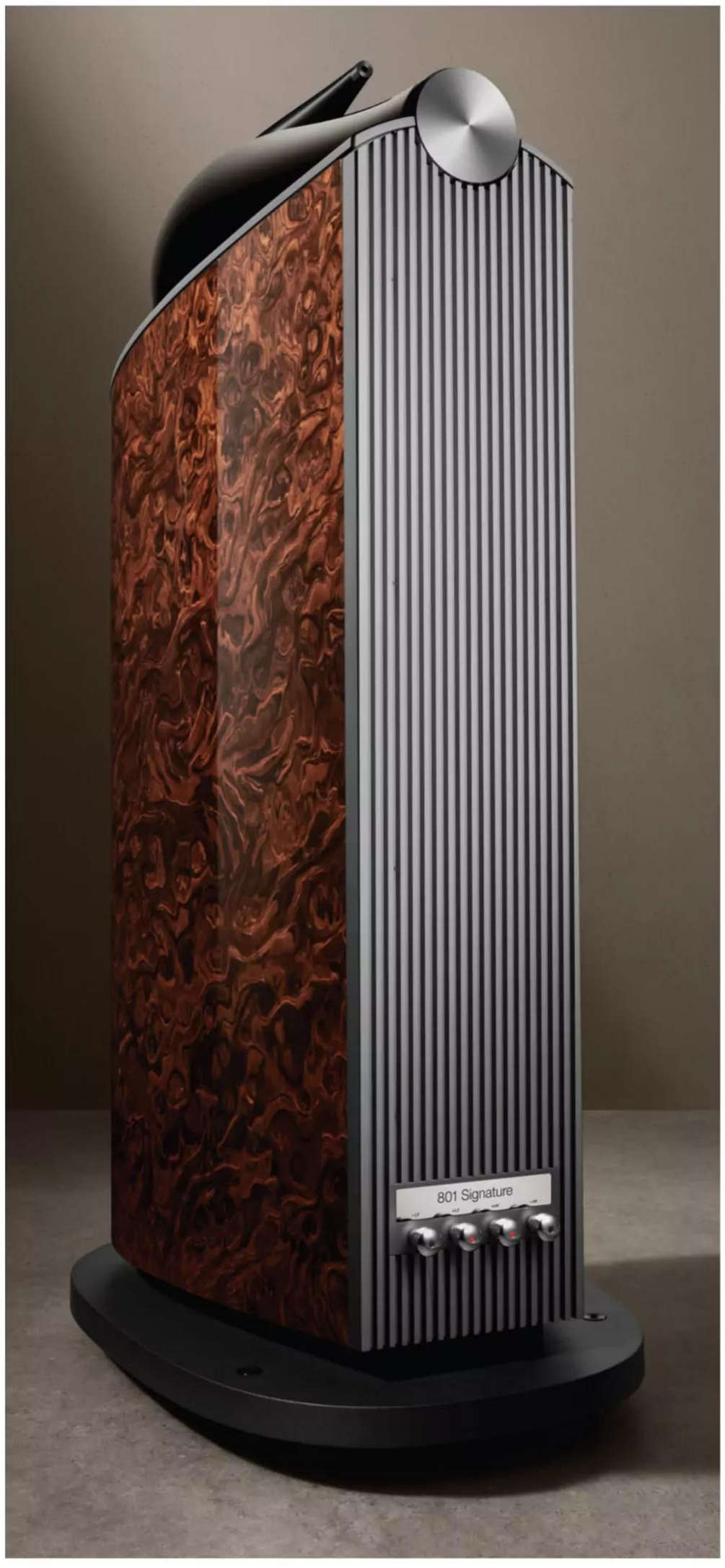
The speakers were located roughly where my larger-footprint 808s had been, but at this point, their sound didn't seem to fill the room as much. Was it just a matter of me adjusting to a modern, more pronounced tweeter, or did their position need adjustingt?

Then appears a visitor

Longtime B&W rep Lucette Nicoll reached out to tell me that Peter Madueno, regional brand activator for Masimo Consumer, wanted to visit and make sure the speakers were set up and behaving optimally in my room and system. Peter arrived a few days later.

Madueno agreed that the 801 D4 Signatures sounded a bit bright, and he thought they should be projecting more deep bass into the room. He rolled the left speaker back against the wall and played a Jennifer Warnes cut, "Ballad of the Runaway Horse," a bonus track from the 20th anniversary reissue of *Famous Blue Raincoat* (16/44.1 FLAC, Shout!/Qobuz). He told me to listen to the bass: It should dip softer, grow louder, then fade softer again as he moved the speaker outward from the wall. Sure enough. He rolled the speaker back against the wall and told me to say when the bass was at peak loudness before starting to roll off again as the speaker rolled farther into the room. We identified that spot. Then he measured the distance from the rear of the speaker to the wall and moved the other one out by the same distance. Already, the sound was noticeably better, with a firmer, more detailed low end. The top-end energy and midrange detail, sparkle, and punch were retained. Then we worked on toe-in. Optimal placement ended up being about 18" out from the back wall, toed in about 10°, 9' between woofer centers, the listening seat about 10' out from the center.

Madueno's final task was to level the speakers and anchor them to my faux-wood floor with the rubber feet. We spent a few minutes fiddling with the threaded feet and the included tools, and there the speakers stood until the day they moved on.



Finally, weeks of serious listening

Now that I was happy with the placement of the speakers, it was time to get down to some critical listening.

Around the time the speakers arrived, I received prerelease copies of my latest Mercury Living Presence reissue: *Los Romeros - The Mercury Masters* (10 CDs, Decca 485 4015).[6] This reissue project, which I produced and remastered, was great fun because the three Romero brothers—Celin, Pepe, and Angel—were enthusiastic participants. The team at Decca Classics did a great job with packaging and the booklet.

I put on CD8, two concertos by Joaquín Rodrigo recorded with the San Antonio Symphony in 1967. *Concierto andaluz* was commissioned by the Romeros' guitar quartet (the three sons plus father Celedonio). The guitars sit dead center in the stereo image, with prominent double basses to the right and first-seat violins to the left. Spread behind the front array, from left to right, are woodwinds and brass. As I heard while making the 3-to-2 channel mix of this recording, every note and its source is clearly located on the soundstage, and the four guitars are distinctly detailed. The 801 D4 Signatures produced this image large and realistic, as if my living room had morphed into San Antonio's Civic Auditorium.

I switched to CD6, *World of Flamenco*, a 2-LP concept album dreamed up then made real by Pepe Romero. He gathered his

6 See tinyurl.com/Romeros-Decca, also available at Amazon and other music retailers; promo video here: youtube.com/watch?v=9y1MpKx_BLw.

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father and brothers and rounded up a group of singers, dancers, and percussion players to create an authentic *jaleo*, a Flamenco improvisational performing group. They rehearsed at the Romero home, then got in front of microphones at Bill Putnam's famous United Recording Studios in Hollywood just after Christmas, 1966.

The music was improvised on the spot, including Celedonio's poetry recitations, which accompany some selections. It was recorded in a way that puts the listener in the room, with the group spread across a wide soundstage. The original LP suffered from dynamic compression and artificial echo, added during disc mastering. For this release, I went back to the unprocessed, edited session tapes, which I believe bring the full spirit and energy of Pepe Romero's creative vision directly to the listener. In my booklet notes, I recommend headphones, but the B&W speakers did such a nice job pushing forth the sound energy and dynamics and correctly reproducing the low-frequency components of the Spanish dancing and foot-tapping that I experienced an in-the-room closeness similar to what I hear through headphones—but more realistic because of the floor-shaking low-frequency energy of dancer Raul Martin, on the left.

Another day, I streamed from Qobuz the 50th anniversary deluxe reissue of *Catch a Fire* by Bob Marley & The Wailers (24/96 FLAC, UMG/Qobuz).[7] The first cut, "Concrete Jungle," a reggae classic, features clean, deep bass, recorded so that you can hear both the low-frequency energy and the tone of the electric bass. On the second track, "Slave Driver," the bass is more low-fi: fuzzy and muddy. The 801 D4 Signatures reproduced each as it is, neither flattering nor distorting poor recordings. What is there is what you will hear.

My musical tastes lean toward rock, pop, and jazz from the 1950s through 1980s. Consistent with those tastes—especially with rock and pop—I am realistic in my sonic expectations with my favorite albums. As I zipped around Qobuz and my NAS-streaming library, I wasn't surprised when new sonic flaws were uncovered in my favorite songs. What did surprise me was the emergence of new details, mainly due to the pinpoint-steady placement of instruments and voices, and the height, width, and depth of the soundstage. There was a lot of space in which the music lived, so each sound had room to be heard. This dovetails with Jim Austin's comment in his report from Carlsbad, that the 801 D4 Signatures throw a big, rectilinear soundstage. With classical music, the precision top end aided in fully presenting reverb tails and a strong sense of the recording venue.

Vinyl on the big stage

I wondered if the large, high-resolution soundstage would be friend or enemy to vinyl playback. Let's be honest: However much you enjoy your favorite LPs, you typically have to forgive a bunch of background (and sometimes foreground) noise. My tolerance is limited. I rarely spin beat-up records, and I have little interest in older records full of background hum pressed on plastic that should have been used for something else. I keep my records clean and make sure the platter and stylus are dust-free before a side gets spun. Even then, vinyl is vinyl; it's never noise-free. Applying a large-scale magnifier of details could be fraught.

As it turned out, well-made records sound great and poorly made records sound poor, writ large. But first, the 801 D4 Signatures helped me find a cable problem.

I started out with a new reissue of a mono record: Clifford Brown and Max Roach's *Study in Brown* (Verve/Analogue Productions B0032412-01). Dammit, the image was focused and well-sorted but leaned left. I tried adjusting the balance control on my Pro-Ject phono preamp, but even with it turned fully to the right, the image remained left of center. After a few minutes of diagnostics, I localized the trouble to the RCA cable between the turntable and preamp. With another cable swapped in, the image returned to center, with the balance control out of the circuit.

Back to the vinyl. *Study in Brown* is a great example of a mono mix that fits all the sounds, in pleasing balance, in the center of the soundstage. The first cut on side B, "George's Dilemma," features a strong beat by Max Roach and bassline by George Morrow, with Richie Powell's piano sitting behind Clifford Brown's trumpet, and Harold Land's tenor sax playing the melody. Then there's a round robin of solos, including Roach's distinctive work on the cymbals and hi-hat, and a solid Murrow solo low down. All this was rendered fully human-sized by the B&Ws.

Next, I spun a relatively beat-up copy of the first stereo LP to be certified RIAA Gold, *Persuasive Percussion* by Terry Snyder and the All Stars (Command RS 800 SD). In this case, the clicks, ticks, pops, and whoosh of the overused vinyl detracted from enjoyment of the music, but the highly directional stereo pushed it wide and high, and each close-miked instrument sounded as it should. I had visions of the 1958 audiophile, "Wow, the bongos are over there, and the Chinese bells are over there, and now they switched places!" It seems gimmicky today, but it was a big part of selling stereo sound to the early adopters.[8] I concluded that it's possible to enjoy a few songs on a beat-up record through

7 See open.qobuz.com/album/m8tfugu3bf4ta; there are many other versions of this album streaming on Qobuz.

8 Visit any audio show, and you'll learn that ping-pong stereo is still popular in certain circles.—**Jim Austin**

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highly revealing speakers, but I'd rather stick with better platters.

My final vinyl spins were newer-production premium products, and rockers. First was the recent all-analog reissue of The Cars' eponymous first album (Rhino High Fidelity RHF 135). My copy is a superb pressing, with an almost silent background and gobs of punch and drive. The highly produced record features a somewhat boomy beat and a lot of splash and tinkle up high. Although I've heard this album many times over the years, I noticed for the first time that Ric Ocasek sometimes sings a bit distant from the microphone, with the sound of the vocal booth space around his voice, and is lower in the mix than the chorus vocals. Perhaps some first-album stage fright? The album is also more dynamic than recent digital versions, to the benefit of drums and staccato guitar and keyboard parts.

Mobile Fidelity's 2-LP version of Elvis Costello and the Attractions' *Get Happy* transforms what had been a 20-song, long-sided, relatively low-fi Columbia LP into four sides of 45rpm hi-fi, new-wave energy. On this, their fourth album, the band took a turn toward tightly played, simple arrangements inspired by American 1960s R&B. "Opportunity" is a good example: a steady kickdrum beat dead center, electric organ on the right, guitar (the sound leaning clean and dark) on the left, bass between drums and guitar, vocals in the center. Nick Lowe's production is unadorned—very different from, for instance, what he did with the Pretenders' "Stop Your Sobbing," and some earlier Costello material like "Party Girl." The effect is bracing. MoFi did a nice job with this, and the HD streaming version also sounds great.

One more bass check

I've adopted some references for low-frequency sound reproduction favored by fellow *Stereophile* reviewers. Jason Victor Serinus has recently been using the second movement of Shostakovich's Symphony No.11, "The Year 1905," performed by Andris Nelsons and the Boston Symphony Orchestra (24/96 FLAC, DG/Qobuz). John Atkinson has been using Taylor Swift's "All Too Well" from *Red (Taylor's Version)* (Big Machine Records, 24/96 Qobuz stream). These very different pieces of music sound equally immediate and powerful through the B&W 801 D4 Signatures.

The second movement of Shostakovich's symphony depicts Czar Nicholas II's Cossacks massacring unarmed civilians carrying a petition demanding reforms, which actually happened in front of the Winter Palace in St. Petersburg on "Bloody Sunday," January 9, 1905.[9] The 18-minute movement builds slowly, the theme starting with the double basses and moving around the orchestra. At around 13 minutes, the bloodbath ensues, represented by a massive percussion burst lasting several minutes, including a big bass drum, pounded hard. The floor shakes, and I'm sure a pant leg would flutter in front of the woofers, though I never tried it. This is high musical drama despite the somewhat diffuse, distantly miked recording style.

In stark contrast, the Taylor Swift tune is highly produced, even synthetic sounding. But JA discovered a great woofer test buried in this pop tune: at 2:25, when Swift sings "'Cause there we are again in the middle of the night," the pronounced bass line drops an octave, down to subwoofer territory. A full-range speaker should cleanly reproduce the drop and sort out the busy mix. If the speakers tell the truth, Swift's voice will sound nasal and sibilant. The 804 D4 Signatures did all that.

Conclusions

I thoroughly enjoyed many hours in front of the B&W 801 D4 Signatures, and I'm grateful to the large team that helped make this review happen. These speakers bring forth a huge sound and project a large, detailed stereo image in front, above, beyond, and behind the speakers. This is what I want in full-range, room-filling speakers. They put out a lot of high-frequency energy, so focus on toe-in and seating height during setup to achieve the treble levels you prefer.

I recommend that potential buyers audition them with familiar music and spend enough time to get a grip on how accurate and fast they are. It may be somewhat shocking in comparison to older or smaller-format speakers. They are, after all, used as studio monitors, including at Abbey Road. Yet, they buck the stereotype of cold, pointillist magnifiers of all things wrong in a recording. Instead, they present every bit of information captured by the microphones and baked into the mix, all of a piece and with a rich, full sound. They make old favorites new again by revealing previously unheard details.

The Bowers & Wilkins 801 D4 Signatures cost a pretty penny, but in the context of how accurately and completely they reproduce all kinds of music, and the huge soundstage they throw, they are competitive with speakers costing much more. If you like your sound big, full-range, and highly detailed, leaving out nothing that's in the recording, you should definitely audition these speakers. ■

ASSOCIATED EQUIPMENT

Digital sources dCS Bartók streaming DAC, Oppo DV-981HD universal disc player.
Analog sources Technics SL-1200mk7 Anniversary Edition turntable, Shure V-15 Type III, Ortofon 2M Blue, and Grace F-9e cartridges.
Preamplifiers Benchmark LA-4, Pro-Ject Phono Box RS2 phono.
Power amplifiers Benchmark AHB2, LSA Warp 1.
Loudspeakers B&W 808.—**Tom Fine**

9 See tinyurl.com/2z5kfwpe.

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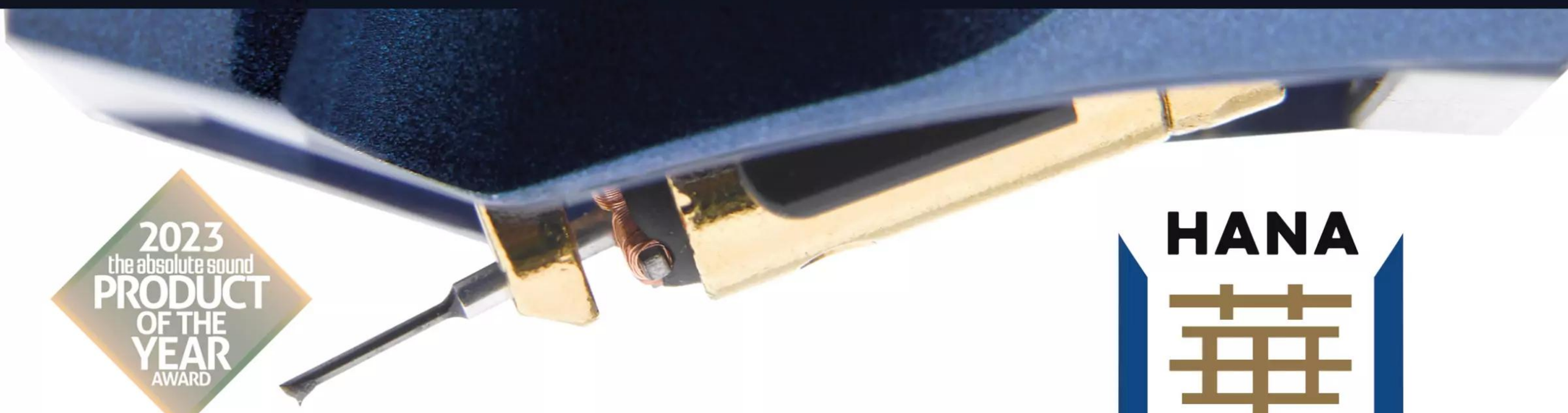

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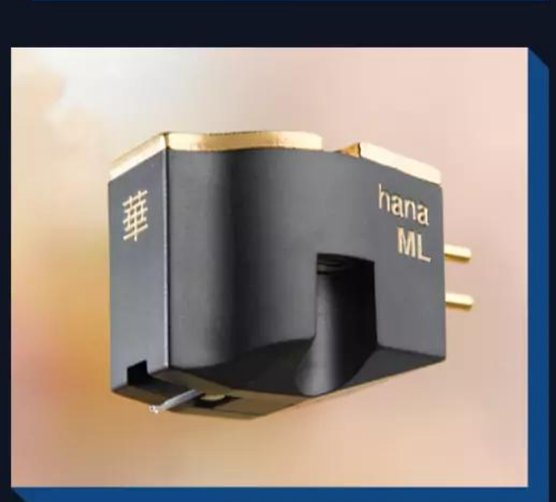

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JOHN ATKINSON

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D/A PROCESSOR

When standalone digital/analog processors made an appearance a quarter-century ago, they were limited to the CD medium's 16 bits of resolution—at best. These days, almost every DAC can process at least 24 bits, and many models offer between 20 and 21 bits of real-world resolution. Modern models from Benchmark, dCS, MBL, Merging, Mola Mola, Okto, and Weiss illustrate not just the skill of the circuit designer but also that of the engineer who laid out the printed circuit board. One of the first digital processors I encountered that offered 21 bits of resolution was the Weiss DAC202, which Erick Lichte reviewed in January 2012.[1] Subsequent processors from this Swiss company have consistently performed well, not just on the test bench but also in the listening room.

I didn't quite get up to dance in the first movement of the "Christen, atzet diesen Tag" cantata, but it was a close-run thing.

This was particularly true of the Weiss DAC502 I reviewed in the August 2020 issue.[2] I concluded that review by writing, "The Weiss DAC502 retrieves more information from the digits than any other DAC I have auditioned, with the possible exceptions of the Chord DAVE and dCS Vivaldi, both of which are long gone from my system and neither of which has either a headphone output or DSP functions." Notably, that superb transparency to the recorded data was not accompa-

1 See stereophile.com/content/weiss-dac202-firewire-da-converter.

2 See stereophile.com/content/weiss-engineering-dac502-da-processor and .com/content/weiss-engineering-dac502-da-processor-jason-victor-serinus-october-2020.

SPECIFICATIONS

Description Roon-Ready, two-channel, digital/analog converter with volume control, color LCD touchscreen, DSP, and remote control. Digital inputs: AES3 on XLR, S/PDIF on RCA jack and TosLink optical connector, USB Type A, USB Type B, Ethernet on RJ45 jack. PCM sample rates supported: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz, 352.8kHz, and 384kHz, plus DSD64 and DSD128 (not all frequencies are supported with all inputs). Maximum input word length: 24 or 32 bits depending on input. Analog outputs: 1 pair balanced XLR, 1 pair single-ended RCA, all short circuit-proof. Maximum RMS output voltage at 0dBFS: switchable, 16.3V (+26.5dBu), 10.2V (+22.5dBu), 6.5V (+18.5dBu), 4.1V (+14.5dBu), 2.6V (+10.5dBu), 1.6V (+4.5dBu), 1.0V (+2.5dBu), 650mV (–1.5dBu), balanced; half these voltages, unbalanced. Frequency response: 0Hz–20kHz ±0.25dB, Fs = 44.1kHz; 0Hz–20kHz ±0.25dB, 0Hz–40kHz ±1dB, Fs = 88.2 kHz; 0Hz–20kHz ±0.25dB, 0Hz–40kHz ±1dB, 0Hz–80kHz ±4dB, Fs = 176.4 kHz. THD+N: –116dBr (0.00016%) at –3dBFS input level, –128dBr (0.000056%) at –40dBFS input level; –128dBr (0.000056%) at –70dBFS input level. Linearity: <±0.2dB deviation from ideal, 0dBFS to –120dBFS input level. Spurious components (including harmonics): at 0dBFS input level, maximum output level, 1kHz, all components <–120dB; at 0dBFS input level, maximum output level, 4kHz, all components <–115dB. Channel separation: >110dB, 20Hz–20kHz. Interchannel phase response: ±0.1°, 20Hz–20kHz, ±0.25° 20Hz–80kHz. Power consumption: 25VA max in use, 2.2VA max in standby.
Dimensions 17.7" (450mm) W by 11.8" (300mm) D by 2.9" (74mm) H (including feet). Weight: 20.7lb (9.4kg).
Finish Silver or black anodized aluminum.
Serial number of unit reviewed 0010, "Made in Switzerland." Firmware version: v2.7.0 revision r3161.
Price $21,995. Optional headphone adapter cables cost $495. Approximate number of dealers: 30 in US, 10 in Canada. Warranty: three years from original purchase date.
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nied by glare or exaggerated treble detail. "To resort to an audio reviewer cliché," I wrote, "the DAC502 cleaned the window into the recorded soundstage to an impressive extent."

The DAC502 is currently priced at $10,995. The latest Weiss DAC, the Helios, which Jason Victor Serinus reported on at the 2023 High-End Munich show,[3] is considerably more expensive, at $21,995. Intrigued to find out what the additional dollars get the owner, I asked for a review sample.

The Helios

On the face of it, the Roon Ready Helios looks identical to the DAC502: a slim, anodized aluminum chassis, though now with a stainless steel internal frame. There is still a control knob at the far right of the front panel; a four-color touchscreen next to it; AES3, optical and coaxial S/PDIF, USB Types A and B, and Ethernet digital inputs; and balanced and single-ended analog outputs. But on closer inspection, the Helios lacks the earlier processor's headphone jack. It can still be used with headphones, however: Using optional adapter cables ($495), the Helios can drive headphones from its balanced and unbalanced outputs. This is made possible by Weiss's new, proprietary OP2-BP discrete operational amplifiers, used four per channel in the analog output stage. The output mode can be switched between Loudspeaker and Headphone, and the DSP options now include settings for use with headphones.

In addition to the new op-amps, the Helios offers an upgraded digital-to-analog stage. While it uses the same eight-channel, 32-bit ESS Sabre ES9038PRO HyperStream II D/A converter chip, the Helios uses four of the DAC channels operated in parallel for each analog output. The DAC502 uses two DAC channels in parallel for the speaker feed and two for the headphone feed. The ES9038PRO will handle PCM data sampled up to 768kHz and native DSD1024 data; Weiss says that the Helios uses a "high-precision/low jitter clock generator for ultra-stable clocking of the D/A converter section."

The Helios offers the same digital signal processing (DSP) functions as the DAC502 (although the headphone-related DSP functions had not yet been implemented when I auditioned the 502), realized with an Analog Devices SHARC chip. The following DSP algorithms are implemented: Room EQ, which can apply high-shelf and peaking/notch filters to deal with low-frequency room modes; Creative EQ, which applies low, mid, and high boost/cut; DeEsser,

3 See stereophile.com/content/new-weiss-helios-dac.

MEASUREMENTS

I measured the Weiss Helios with my Audio Precision SYS2722,[1] repeating some of the tests with the higher-resolution APx555. All the measurements were performed with the Helios's DSP bypassed. Apple's USB Prober utility identified the Helios as "Helios" from "Weiss_Engineering_Ltd." with the serial number string "0.0.1." The USB port operated in the optimal isochronous asynchronous mode, and Apple's AudioMIDI utility revealed that the Helios accepted 32-bit integer data sampled at all rates from 32kHz to 384kHz. The AES3 and coaxial S/PDIF inputs accepted data sampled at rates up to 192kHz; the TosLink input was restricted to sample rates of 96kHz and lower.

With the balanced output mode set to Loudspeaker, the Helios's maximum output level at 1kHz feeding 100k ohms was 16.4V with the level set to "0dB"; 10.3V set to "–4dB"; 6.5V set to "–8dB"; 4.1V set to "–12dB"; 2.6V set to "–16dB"; 1.63V set to "–20dB"; 1.03V set to "–24dB"; and 648mV set to "–28dB." Each nominal reduction of 4dB in the output level reduced the actual level by 4dB. As expected, the maximum levels from the unbalanced outputs were

1 See stereophile.com/content/measurements-maps-precision.

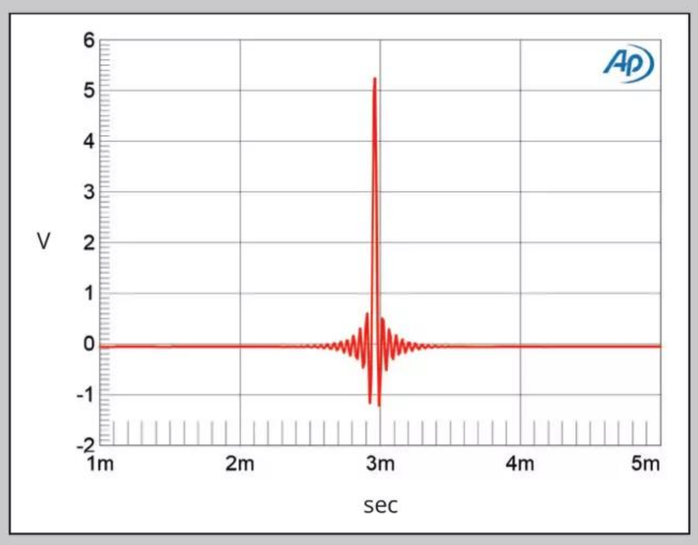

Fig.1 Weiss Helios, impulse response (one sample at 0dBFS, 44.1kHz sampling, 4ms time window).

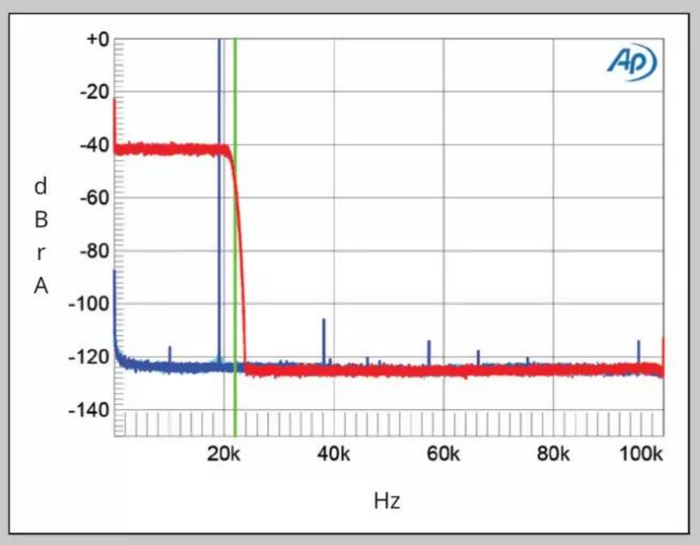

Fig.2 Weiss Helios, wideband spectrum of white noise at –4dBFS (left channel red, right magenta) and 19.1kHz tone at 0dBFS (left blue, right cyan) into 100k ohms with data sampled at 44.1kHz (20dB/vertical div.).

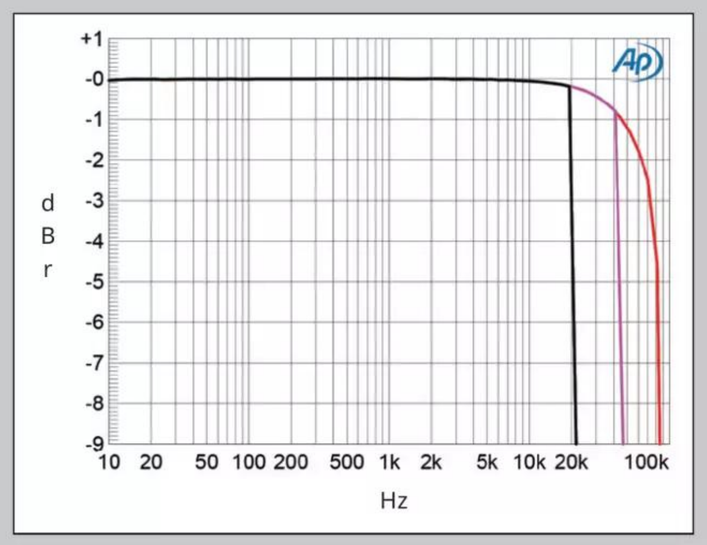

Fig.3 Weiss Helios, frequency response at –12dBFS into 100k ohms with data sampled at: 44.1kHz (left channel green, right gray), 96kHz (left cyan, right magenta), and 192kHz (left blue, right red) (1dB/vertical div.).

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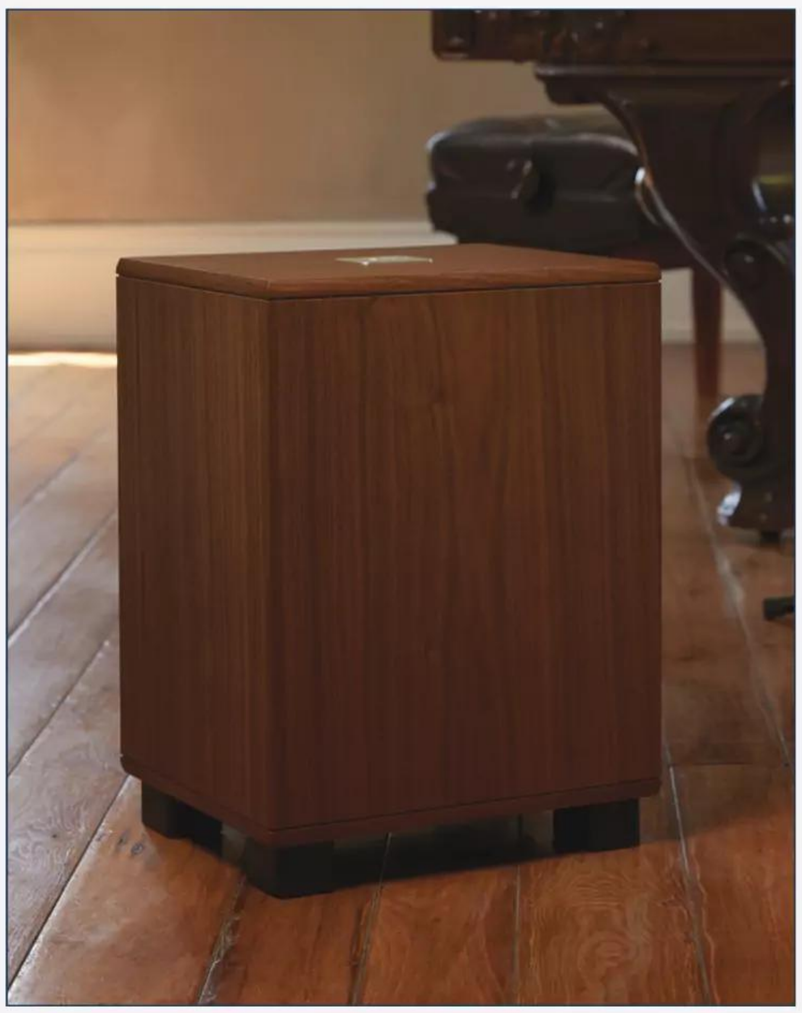

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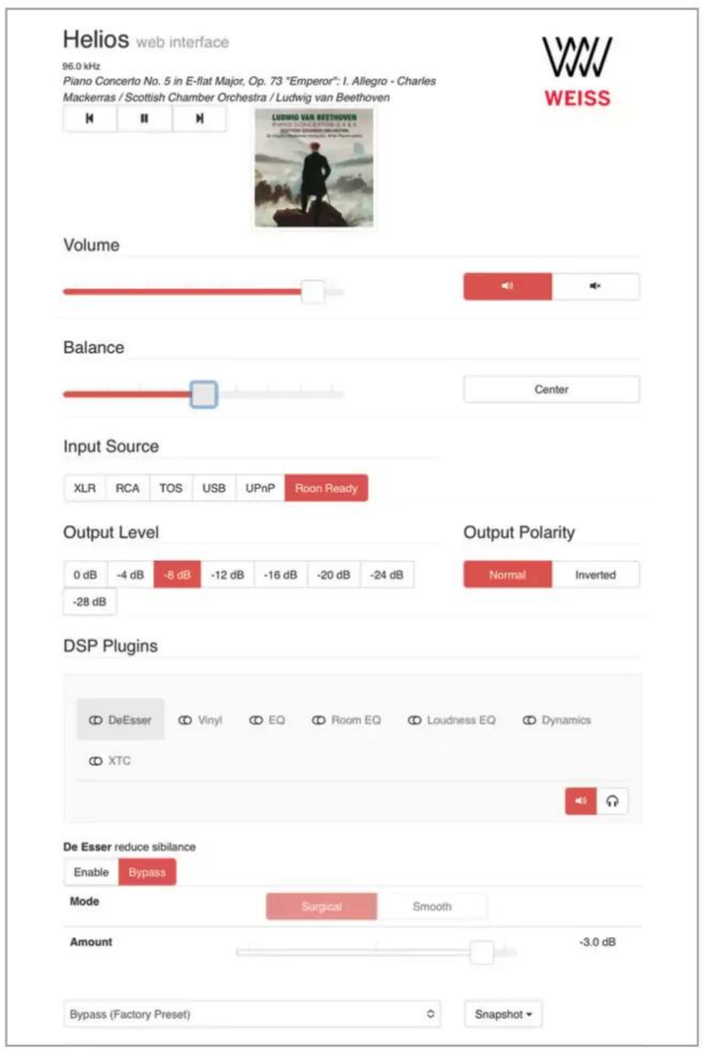
which removes overly bright sibilance from human voices; Dynamic Adaptation, a "party mode" that normalizes loudness; Vinyl Emulation, said to provide "that special sonic character of a record player based playback chain"; Crosstalk Cancellation (XTC), which allows binaural recordings to be correctly played back on loudspeakers; and Loudness Control, which equalizes the output to compensate for the ear-brain's differing frequency sensitivity at different listening volumes. Once you have chosen the parameters for each of these functions, the settings can be saved as a snapshot and recalled at the touch of a button on the control webpage or the metal remote control.



Setup

Like the DAC502, the Helios can be controlled in three ways: with the touchscreen and rotary control; the aforementioned metal IR remote control; or with a web browser by entering the address https://[helios-serial-number].local. The web and front-panel interfaces allow setting the volume, balance, mute, and polarity inversion controls, those DSP settings, and a choice of maximum output levels: "0dB," "–4dB," "–8dB," "–12dB," "–16dB," "–20dB," "–24dB," and "–28dB." I set the processor's output level to "–12dB," equivalent to a maximum level of 4.1V balanced and 2.05V unbalanced.

Once I had connected the Helios to my network and opened the local webpage, I was able to check for any firmware updates. ("FW is up to date," it told me; the review sample was running v2.7.0 firmware, revision r3161, dated "2023-02-14.") The Roon app processor recognized the processor as "Weiss Helios," allowing Roon to control its volume. The Roon volume setting was immediately reflected on the front-panel display and mirrored in the local webpage. The webpage duplicated Roon's transport controls and displayed the artwork of any album selected with Roon.

I noted something unusual with Roon. With PCM data sampled up to 192kHz, clicking on "Weiss processor Synchronization" in Roon's "Signal path" window gave the following message: "The audio is being converted to a 195.312kHz sampling frequency for optimal signal quality and to help reduce any jitter related effects." The same was true for DSD64 and DSD128 data, both of which the Helios first converted to 176.4kHz PCM before resampling.

Listening

I started my auditioning with the Q Acoustics 5040 loudspeakers I reviewed in the January 2024 issue, driven by a pair of Parasound Halo JC 1+ monoblocks. After the Q Acoustics speakers had been returned, I used my KEF LS50 mini-monitors, then replaced the Parasounds with the Audio Research I/50 integrated amplifier I wrote about in the February 2024 issue. I subsequently replaced the Audio Research with my NAD M10 integrated and the KEFs with Golden Ear BRXes. I ended the audi-

measurements, continued

half those from the balanced outputs. Switching the output to Headphone reduced all the maximum levels by 12dB. With its polarity button set to Normal, the Helios preserved absolute polarity (ie, was noninverting) from all of its outputs. The balanced output impedance was 93.5 ohms at all audio frequencies in both Loudspeaker and Headphone modes; the unbalanced output impedance was 47 ohms in both modes.

Fig.1 shows the Helios's impulse response with 44.1kHz data. It is typical of a conventional linear-phase filter with a symmetrical ringing before and after the single full-scale sample. This filter's ultrasonic rolloff (fig.2, magenta and red traces) reaches full stop-band attenuation at 24kHz with complete suppression of the aliased image at 25kHz of a full-scale tone at 19.1kHz (cyan, blue). The harmonics associated with the 19.1kHz tone all lie below –107dB. Fig.3 shows the Helios's frequency response with data sampled at 44.1, 96, and 192kHz. The response with all three sample rates is down by just 0.1dB at the top of the audioband with then a sharp rolloff just below half of the two lower sample rates. The response with 192kHz data continues the relatively gentle ultrasonic rolloff, reaching –3dB at 71kHz.

Channel separation was superb, at

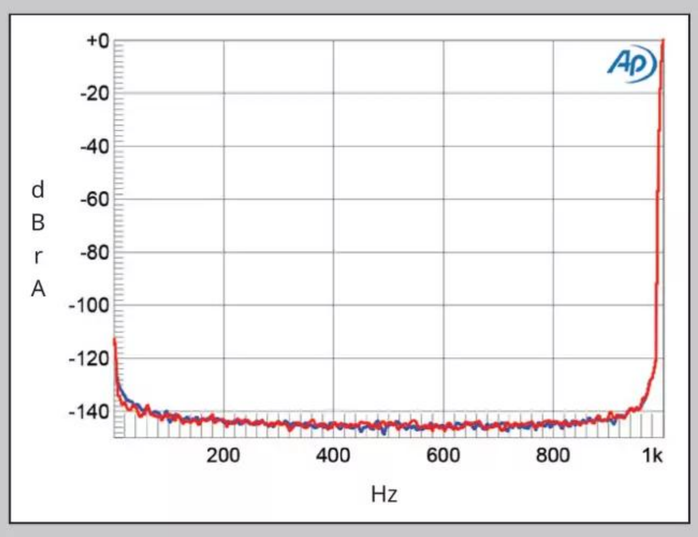


Fig.4 Weiss Helios, spectrum of 1kHz sinewave, DC–1kHz, at 0dBFS with volume control set to the maximum (left channel blue, right red; linear frequency scale).

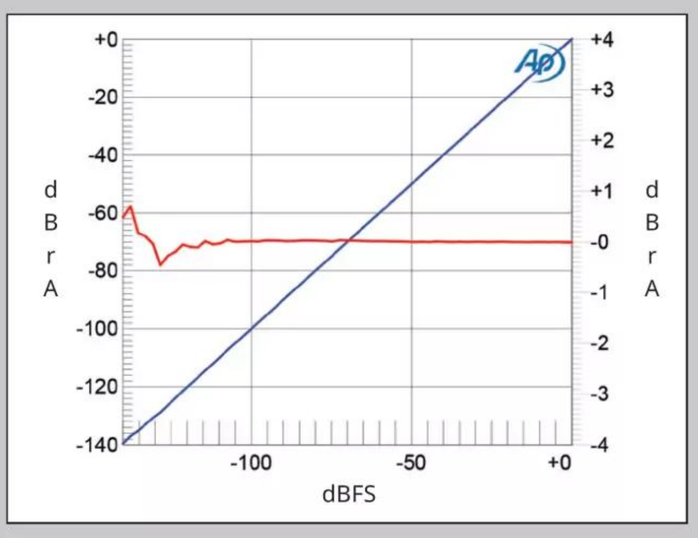


Fig.5 Weiss Helios, left channel, 1kHz output level vs 24-bit data level in dBFS (blue, 20dB/vertical div.); linearity error (red, 2dB/small vertical div.).

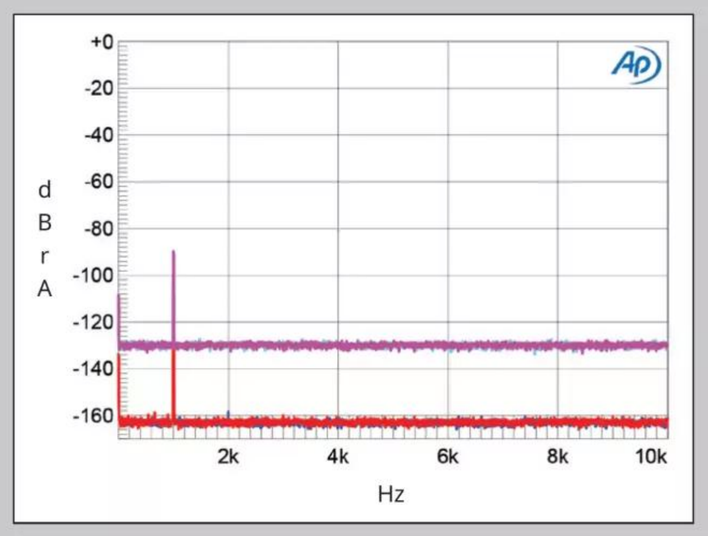


Fig.6 Weiss Helios, spectrum with noise and spuriae of dithered 1kHz tone at –90dBFS with: 16-bit data (left channel cyan, right magenta), 24-bit data (left blue, right red) (20dB/vertical div.).

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TONEAUDIO SUMMED UP WITH:

"It's really just a great amplifier, and I can't say enough positive things about it. Because of its tremendous value and overall superb performance, I'm unabashedly nominating the Emerald Physics 600.2SE amplifier for a Reviewer's Choice Award. Another win to Underwood Hi-Fi!"

JEFF DORGAY – EDITOR/PUBLISHER
TONEAUDIO – AUDIOPHILE APARTMENT

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tioning by returning to the Parasound monoblocks. I used Roon for all critical listening.

I reported on the effect of the DSP functions in my DAC502 review, so I won't repeat my findings here. Like the earlier Weiss DAC, the Helios's parametric EQ was useful in boosting and extending the low frequencies of the speakers I used for my auditioning. (I used a Low Shelf filter set to give a 3dB boost below 100Hz with a Q of 1.40.)

Throughout the changes of amplifier and loudspeakers, the Helios echoed the DAC502's extraordinary clarity but with an enhanced sense of involvement with the music. I listened to the recordings I had used for my DAC502 review—both my own and those recorded by other engineers—with the Helios. It is fair to note that I hadn't had the earlier processor in my system for more than three years, but if I had to swear on the very first issue of *Stereophile*, this impression was consistent throughout my auditioning of the Helios.

The clarity of the soundstage was just as superb, as I remember from my time with the DAC502. This was particularly evident on a new album of jazz duets produced by erstwhile *Stereophile* writer Michael Fremer: *Rufus Reid Presents Caelan Cardello* (16/44.1 WAV files, Liam Records), one of the last albums mastered by Bob Ludwig before he retired. Reid's round-toned double bass and Cardello's Fazioli piano were palpably present in the rather dry club acoustic, the instruments superbly well-defined in both space and tonal balance.

As I was finishing writing this review a few days before Christmas, I finished my listening first with the Dunedin Consort's "Hodie Christus natus est a 8," from *Magnificat* (24/192 ALAC, Linn Records). The sparse arrangement was laid meticulously clear by the Helios, each singer presented stably in the stereo image. I was intending to audition just this one track, but I ended up listening to the entire album. I didn't quite get up to dance in the first movement of the "Christen, atzet diesen Tag" cantata, but it was a close-run thing.

Magnificat was followed by Sinéad O'Connor's "Silent Night (Long Version)" (16/44.1 FLAC, Chrysalis/Qobuz). O'Connor's vocals floated satisfyingly free in front of Peter Gabriel's synthesizer wash, though, peculiarly, her echoed sibilants were thrown to the far left and right of the soundstage. The Helios was allowing me to be aware of something I had never noticed before—that detail-retrieval thing!

A comparison

I have been using the MBL Noble Line N31 CD player/DAC as my reference digital source since I reviewed its Roon Ready version in December 2020.[4] At $19,980 with its optional Roon Ready module, the N31 is priced comparably to the Helios.[5] The MBL's maximum balanced output level at 1kHz was 4.15V, which is almost identical to the Weiss's 4.1V when set to "–12dB." Even so, I matched levels to within 0.1dB using the 1kHz warble tone from my *Editor's Choice* CD (16/44.1 ALAC, STPH016-2; no longer available). I then compared the two processors' presentations of my recording of the Jerome Harris Quintet's *Rendezvous* album (16/44.1 ALAC files, STPH013-2[6]).

The N31 offers a choice of reconstruction filters; the minimum-phase filter offers an optimal balance between the presentation of detail and listenability, particularly with CD-resolution files like *Rendezvous*. With this filter, Jerome Harris's soft-toned acoustic bass guitar purred as expected with the MBL processor, and

4 See stereophile.com/content/mbl-noble-line-n31-cd-player-dac-roon-ready-december-2020.

5 Though, of course, the MBL includes a transport.

6 The CD is out of print, but the files can be downloaded or streamed from jeromeharris.bandcamp.com/album/rendezvous.

measurements, continued

>122dB in both directions below 3kHz, decreasing to a still-superb 113dB at 20kHz. Fig.4 shows the spectrum of the Helios's low-frequency noisefloor as it drove a full-scale 1kHz tone with the volume control set to its maximum and the level set to "0dB." The level of the random noise is extremely low, and there are no AC supply–related spuriae present. Reducing the maximum level didn't increase the level of the noisefloor.

The red trace in fig.5 plots the error in the analog output level as a 24-bit, 1kHz digital tone stepped down from 0dBFS to –140dBFS. Even at the lowest level, the amplitude error is <1.1dB, which implies very high resolution. An increase in bit depth from 16 to 24, with dithered data representing a 1kHz tone at –90dBFS, dropped the Helios's noisefloor by 33dB (fig.6). This implies a resolution between 21 and 22 bits, which is the highest I have encountered, greater even than that of the Weiss DAC502 and of the Merging Hapi MKII that KR reviewed in January 2024.[2] When I played undithered data representing a tone at exactly –90.31dBFS, the waveform was symmetrical, with negligible DC offset, and the three DC voltage levels described by the data were free from noise (fig.7). With undithered 24-bit data (fig.8), the Helios's very low analog noisefloor means it can output a clean sinewave, even at this very low signal level.

2 See stereophile.com/content/weiss-engineering-dac502-da-processor-measurements.

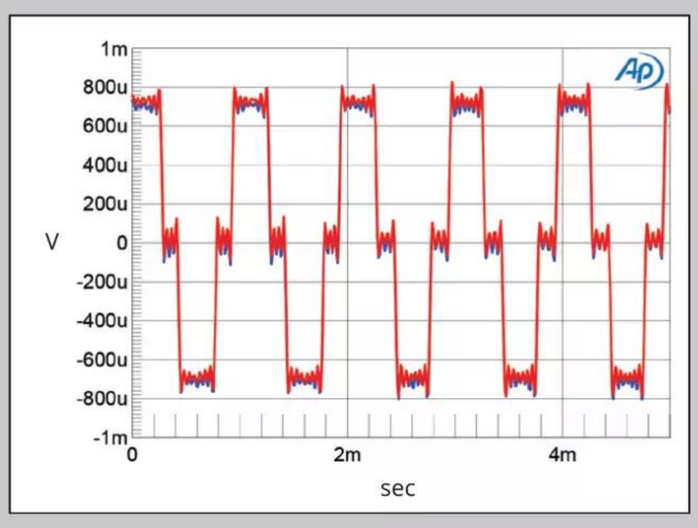

Fig.7 Weiss Helios, waveform of undithered 1kHz sinewave at –90.31dBFS, 16-bit data (left channel blue, right red).

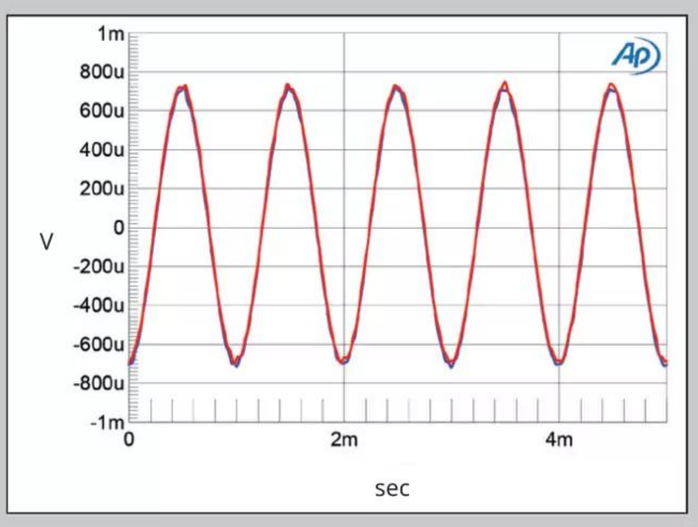

Fig.8 Weiss Helios, waveform of undithered 1kHz sinewave at –90.31dBFS, 24-bit data (left channel blue, right red).

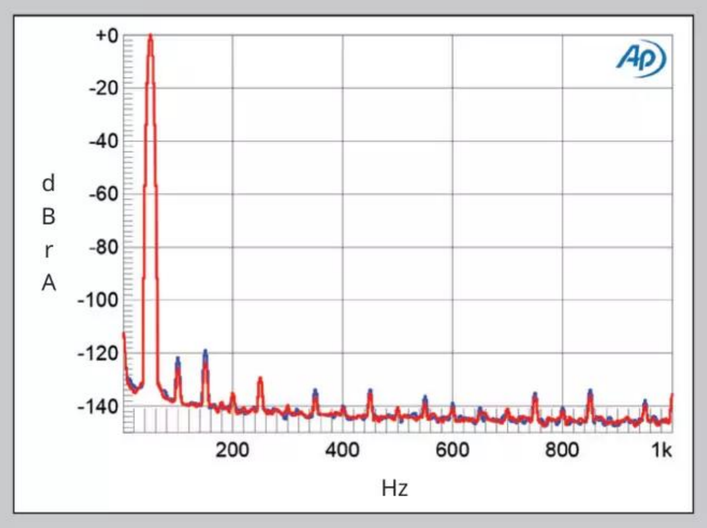

Fig.9 Weiss Helios, 24-bit data, spectrum of 50Hz sinewave, DC–1kHz, at 0dBFS into 600 ohms (left channel blue, right red; linear frequency scale).

Billy Drummond's trap set was set back in the supportive church acoustic of Blue Heaven Studio. Playing the album with the Weiss Helios, with the levels matched, the Weiss sounded a little quieter. The drums were a little more forward, and Harris's bass was less warmly balanced. It was admittedly a close-run comparison, but the Helios offered a slightly more transparent window into the recording's soundstage than the N31. This was especially the case at high frequencies, which favored the sound of Drummond's cymbals.

An example of the Helios's resolving power was on "Decision Point," the first track on the Jerome Harris album. There is a splice between two of the takes of Marty Ehrlich's alto saxophone solo at 6:08, and the join sounded a touch less seamless than I was used to with the MBL. The character of the studio ambience is very slightly different before and after the crossfade due to the different decay of the other instruments at the splice point in the two takes. The ambience is tens of decibels lower in volume than Erlich's sax, but I had no problem hearing that difference with the Helios.

Headphone listening

I used my Audeze LCD-X headphones to audition the Helios's balanced output, set to Headphone, using the optional balanced adapter cable together with a balanced Nordost Heimdall 2 cable. The Headphone setting reduces the chosen maximum level by 12dB, meaning the maximum level of "–12dB" I had been using with Loudspeaker was now "–24dB." I reset the maximum level to "–16dB" for my headphone listening, which meant that with the volume control set to its maximum, the presentation was just the right amount of loud.

measurements, continued

Even set to its highest output level, the Helios produced very low levels of harmonic distortion with full-scale data even into the punishing 600 ohm load (fig.9). The subjectively benign second and third harmonics were the highest in level, but each lay close to a negligible –120dB (0.0001%)! Intermodulation distortion with an equal mix of 19 and 20kHz tones at –6dBFS was similarly extremely low (fig.10), with the difference tone at 1kHz into 600 ohms lying at –130dB (0.00003%)!

The Helios offered excellent rejection of word-clock jitter. Fig.11 shows the spectrum of the Helios's output when it was fed high-level 16-bit J-Test data via AES3. All the odd-order harmonics of the undithered low-frequency, LSB-level squarewave lie at the correct levels, and no other sideband pairs are visible. The central spike that represents the high-level tone at one-quarter the sample rate (Fs/4) is broadened at its base, which was not the case with USB and network data (fig.12).

Weiss's DAC502 performed supremely well on the test bench,[3] but its measured performance was exceeded by that of the Weiss Helios!—**John Atkinson**

3 See stereophile.com/content/merging-hapi-mkii-multichannel-digital-processor-measurements.

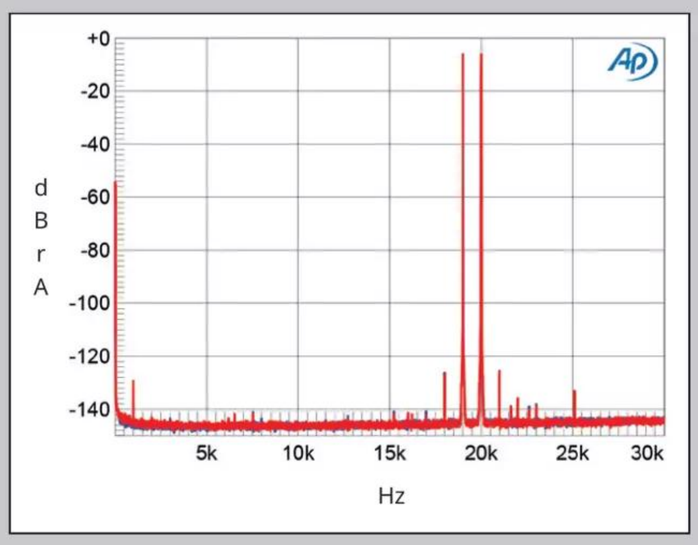

Fig.10 Weiss Helios, 24-bit data, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 0dBFS into 600 ohms, 44.1kHz data (left channel blue, right red; linear frequency scale).

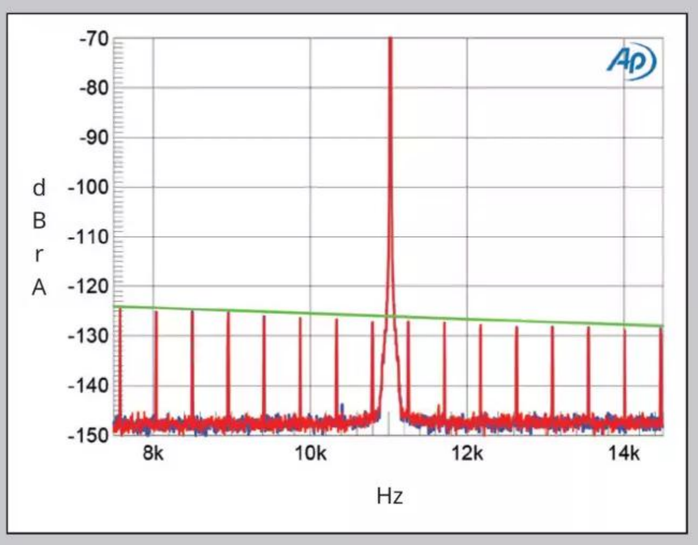

Fig.11 Weiss Helios, high-resolution jitter spectrum of analog output signal, 11.025kHz at –6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit AES3 data (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, ±3.5kHz.

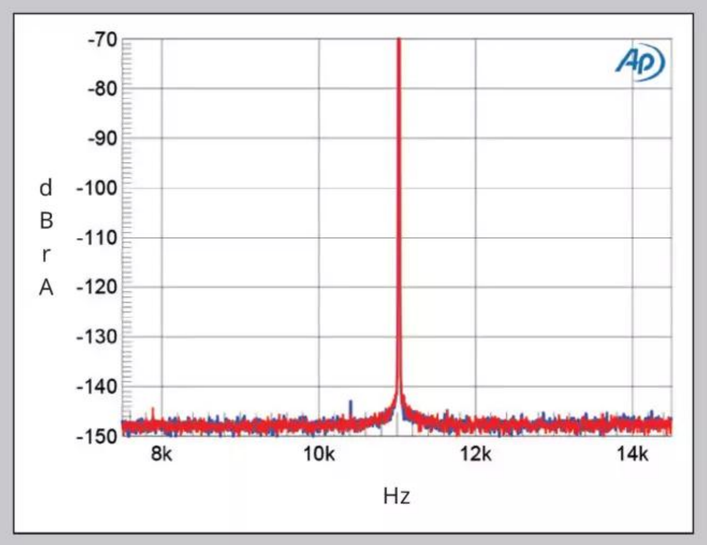

Fig.12 Weiss Helios, high-resolution jitter spectrum of analog output signal, 11.025kHz at –6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 24-bit network data (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, ±3.5kHz.

Before I did any serious listening, I experimented with the Headphone DSP settings. I tried the parametric EQ before realizing that the Helios offers a preset equalization curve for a long list of headphone models. Nineteen settings are available for Audeze models alone! Using the web app, I enabled Headphone EQ and selected the Audeze LCD-X setting. This applied a 3dB reduction in level below 80Hz, another 2dB reduction between 100Hz and 1kHz, and a narrow peak reaching 0dB between 3kHz and 5kHz.

With the Audeze LCD-X preset, Patricia Barber's "Use Me," from *Companion* (DSD64, Mobile Fidelity), was less overtly warm than with no equalization. Michael Arnopol's double bass was better defined, as were drums and percussion. As with my loudspeaker listening, the Helios's presentation pulled me into the music.

With conventional recordings like this, of course, headphones present the soundstage inside the listener's head, between the ears. Binaural recordings move the soundstage outside the head, and I made a lot of binaural recordings back in the day, using a portable cassette or DAT recorder with a pair of electret lavalier microphones suspended in front of my ears. The most memorable of these was a 1981 Grateful Dead concert at London's Rainbow Theatre (16/44.1 ALAC files, transferred from analog cassette original).

I was recording the sound of the Dead through their PA system, but the band was meticulous in getting good sound. I never could get my binaural recordings to project in front of my head, and it was somewhat peculiar to hear the drums behind me on this recording. But with Jerry Garcia's guitar outside my right ear, the keyboards outside my left ear, and Phil Lesh's bass guitar lighting up the Rainbow's low-frequency acoustic, the equalized Helios and the LCD-Xes placed me solidly in the center of the ecstatic audience, where I had been standing with a bunch of "tapers." And when my then-girlfriend asked me a question about the band during "Friend of the Devil," her voice was so solidly placed to my right that I instinctively turned my head to mansplain the answer.

ASSOCIATED EQUIPMENT

Digital sources Roon Nucleus+ music server; Ayre Acoustics C-5xe^{MP} universal player; MBL N31 CD player/DAC; Ayre Acoustics QA-9 A/D converter.
Integrated amplifiers Audio Research I/50, NAD M10.
Power amplifiers Parasound Halo JC 1+ monoblocks.
Loudspeakers GoldenEar BRX, KEF LS50, Q Acoustics 5040.
Headphones Audeze LCD-X.
Cables Digital: AudioQuest Vodka (Ethernet). Interconnect: Ayre/Cardas Reference (balanced). Speaker: AudioQuest Robin Hood. Headphones: Nordost Heimdall 2. AC: AudioQuest Dragon Source & High Current, manufacturers' own.
Accessories Target TT-5 equipment racks; Ayre Acoustics Myrtle Blocks; ASC Tube Traps, RPG Abffusor panels; AudioQuest Niagara 5000 Low-Z Power/Noise-Dissipation System (amplifiers) and AudioQuest Niagara 1000 Low-Z Power/Noise-Dissipation System (source components). AC power comes from two dedicated 20A circuits, each just 6' from breaker box.
—John Atkinson

Conclusion

Three decades ago, I chaired a seminar at a show entitled "Accuracy or Musicality?" Choosing a product that favored one or the other of these may have been necessary back then, but today it isn't necessary to choose: The Weiss Helios shows you can have both. ■

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Ever since I raved about Krell's K-300i integrated amplifier after it was released in early 2019,[1] I've wanted to review other Krell products. After spending more than a year and a half (since its prerelease announcement) awaiting the opportunity to review Krell's new flagship mono power amplifier, the KMA-i800 ($73,000/pair), the time has come. Both Krell models utilize the company's proprietary iBias technology, albeit in different iterations, and both were designed by longtime Krell engineer Dave Goodman.[2]

In the conclusion to my K-300i review, I wrote, "The Krell ... has the smoothest, most listenable, and most all-of-one-piece sonics of [any] integrated I've reviewed. ... There's a round edge to its images that some might equate with the gentlest sprinkling of warmth, but others would describe as listener friendly. It certainly leaves me smiling." I thought it so excellent, and such a good buy for a Roon-ready streaming integrated with an optional onboard PCM/DSD/MQA DAC, that I urged a friend to buy one. More than three years later, he's still smiling.

Would Krell's new, far more powerful class-A monoblocks inspire the same excitement? As much as asking the question may sound like the first installment in a made-for-TV soap series, finding out made all the work I did carting these beasts around more than worth it.

1 See stereophile.com/content/krell-k-300i-integrated-amplifier.

2 Goodman, who has been with Krell since 1987, designed Krell's Altair, KAS and KAS-2, KSA-200S and KSA-300S, KAV-500, and KAV-250A amplifiers. He also designed some of the circuitry in the FPB amplifiers.

SPECIFICATIONS

Description Solid state iBias class-A mono power amplifier. Inputs: one each balanced (XLR) and single-ended (RCA). Output: 2 pairs gold-plated loudspeaker binding posts. Rated output power: 800W into 8 ohms (29dBW), 1600W into 4 ohms (29dBW), 3200W into 2 ohms (29dBW). Frequency response: 20Hz–20kHz +0, –0.13dB. Bandwidth, –3dB: 147kHz (measured at 50W into 8 ohms). Input impedance: 28k ohms, balanced; 14k ohms single-ended. Gain: 26.5dB. Input sensitivity: 3.8V RMS. THD: <0.010%, at 1kHz, 800W with an 8 ohm load; <0.035% at 20kHz, 800W, with an 8 ohm load. Output voltage: 245V peak–peak, 86V RMS. Output current: 56A peak. Slew rate: 35V/µs. Output impedance: 0.009 ohms at 20Hz; 0.018 ohms at 1kHz. Damping factor: >800 at 20Hz referenced to 8 ohms; >400 at 1kHz referenced to 8 ohms. Power consumption: Standby, 1W; Idle, 260W; Maximum, 4750W (4 ohm load). Heat output: Idle, 89BTU; Maximum, 10,773BTU (4 ohm load).
Dimensions 17.25" (438mm) W × 9.4" (239mm) H × 24" (610mm) D. Weight: 145lb (66 kg) each. Shipping weight: 180lb (82kg).
Finish Black
Serial numbers of units reviewed 32623090005, 32623090006. Designed and built in Orange, CT.
Price $73,000/pair. Approximate number of US dealers: 50. Warranty: 5 years.
Manufacturer
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Tel: (203) 298-4000.
Email: info@krellhifi.com.
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Design and engineering

The product overview for the KMA-i800 monoblock amplifier on the Krell website[3] lists the following key technologies: differential output; iBias—see below—paired with XD technology, which lowers output impedance[4]; Sym-Max (Symmetry Maximization), said to virtually eliminate second-order distortion; a power supply "consisting of 5400VA of transformers and 188,000µF of filter capacitance"; power delivery via gold-plated circuit boards and silver-plated solid-copper busbars "with a very short physical path for extremely low impedance"; "Current-Mode circuitry with advanced current mirroring that is balanced, differential, and direct-coupled," with each stage individually tuned; an output stage with "16 pairs of 200W audio power transistors and eight pairs of audio driver transistors," resulting in a wide bandwidth; protection against excess direct current and short circuits on the outputs, plus voltage sags ("brown outs"); and Ethernet connectivity that allows status monitoring and control via a webpage.

I discussed iBias in depth in the sidebar to my K-300i review.[5] Krell's product overview offers a KMA-i800–specific explanation, fleshed out on its iBias technology page. In short, "iBias enables the [monoblock] to operate in class-A up to its full rated power of 800 watts with absolute accuracy but without the heat produced by a traditional class-A design. It [uses] a novel circuit to unobtrusively monitor the current flowing through the output stage. This is part of a closed-loop controller that ... [adjusts] the bias to maintain [a] low preset current level as the signal and speaker load changes [regardless of] what the signal is doing or how the speaker impedance changes with frequency. ... By maintaining that preset current level the amplifier is always operating in class-A."

In a recent phone chat with Goodman and Krell owner Rondi D'Agostino, Goodman said that Krell's current designs are mostly the culmination of an evolutionary process that improves upon his work and the work of other engineers. "On the other hand, iBias is revolutionary. It came out of the mind of one of our previous engineers, but he wasn't around long enough to put it into a production model amplifier. That was my job."

3 See krellhifi.com/kma-i800-mono-amplifier-product-overview.

4 See krellhifi.com/ibias-technology.

5 See stereophile.com/content/krell-k-300i-integrated-amplifier-designer-dave-goodman.

MEASUREMENTS

I performed a complete set of measurements on one of the Krell KMA-i800s (serial number 32623090006) with my Audio Precision SYS2722 system.[1] I preconditioned the amplifier by following the CEA's recommendation, running it at one-eighth the specified power into 8 ohms for 30 minutes. At the end of that time, the temperature of the top panel was 110.9°F (43.9°C) and that of the heatsinks on the side panels was 137.3°F (58.5°C). This amplifier needs plenty of room around it.

The KMA-i800's single-ended and balanced inputs preserved absolute polarity, ie, the XLR jack is wired with pin 2 positive, and the voltage gain was slightly higher than the specified 26dB for both types of input, at 26.75dB. The balanced input impedance was the specified 28k ohms at 20Hz and 1kHz, dropping inconsequentially to 22.6k ohms at 20kHz. As expected, the single-ended input impedance was lower, at 12.4k ohms at 20Hz and 1kHz, 10k ohms at 20kHz.

Krell specifies the KMA-i800's output impedance at 1kHz as a very low 0.018 ohm. My estimate, including the series impedance of 6' of spaced-pair cable, which I have measured as <0.04 ohm, was higher, at 0.17 ohms at 20Hz and 1kHz, and 0.2 ohms at 20kHz. Nevertheless, the variation in the frequency response with our standard simulated loudspeaker[2] (fig.1, gray trace) was minimal, at ±0.1dB. This ampli-

1 See stereophile.com/content/measurements-maps-precision.

2 See stereophile.com/content/real-life-measurements-page-2.

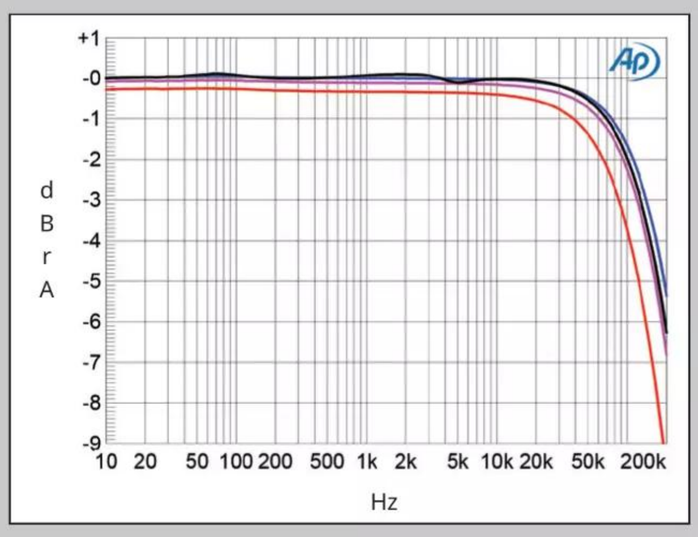

Fig.1 Krell KMA-i800, frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (blue), 4 ohms (magenta), and 2 ohms (red) (1dB/vertical div.).

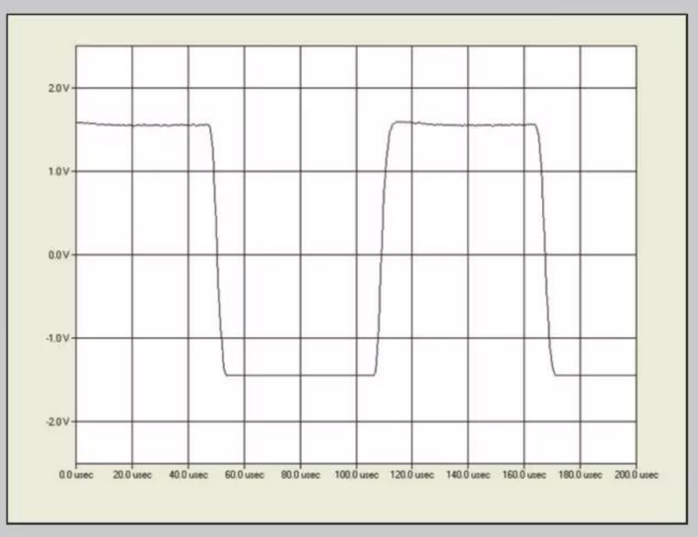

Fig.2 Krell KMA-i800, small-signal 10kHz squarewave into 8 ohms.

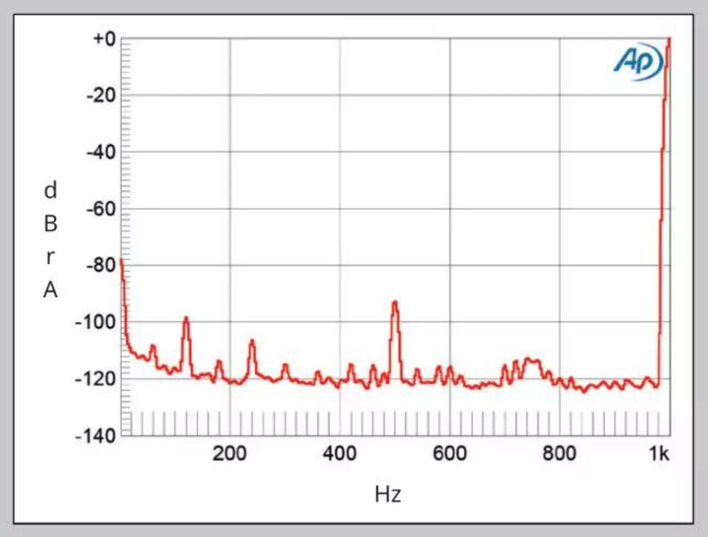

Fig.3 Krell KMA-i800, spectrum of 1kHz sinewave, DC–1kHz, at 1W into 8 ohms (linear frequency scale).

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Dave said that implementation of iBias in the KMA-i800 monoblock includes new circuitry "that adds feed forward compensation to make it respond a little bit faster and more accurately to the amplifier's biasing needs." He also noted that iBias is what allows the monoblock to deliver 800W of class-A power regardless of the load.[6]

"That's the real beauty of iBias," he declared in his customary low-key manner. "It doesn't depend on the speaker load, it doesn't depend on how it varies with frequency, it doesn't depend on what the input is doing. You have a fixed amount of class-A power to work with, and you get that no matter what. The class-A operation you get virtually all the time will give you that nice, warm, easy-to-listen-to sound you associate with class-A amplifiers."

I asked Dave what other aspects of the KMA-i800's technology he considered most unique and important. He replied, "XD technology lowers the output impedance significantly and results in a lot more control over the speaker drivers. This reduces the acoustic distortion you would otherwise get when the drivers are less controlled and flapping around a bit on their own outside of what the signal wants them to be doing. It produces a lot more front-to-back depth to the soundstage and a lot more black space around the performers and instruments.

"Sym-Max technology significantly reduces second-order harmonic distortion and brings out more detail. It really accentuates your perception of the pacing. You get a much more well-defined sense of timing and deliberateness from the musicians on the recording. It's also easier to separate the performers on the soundstage. Together, XD and Sym-Max deliver a much more detailed, realistic, and enveloping sound experience.

"Sym-Max technology is applied throughout the amplifier to reduce second-order harmonic distortion at every stage. By the time you get to the output, that distortion is almost imperceptible.

"The second and third harmonics are the dominant harmonics in the distortion content of most amplifiers. In tube amplifiers, the second order is the dominant harmonic. They'll tell you that distortion sounds good. But what's really happening in tube amplifiers is the third harmonic, which is primarily responsible for harsh,

6 With a typical class-A amplifier, the power operating with class-A bias is halved when the load impedance is halved.

measurements, continued

fier has a wide small-signal bandwidth, the response into 8 ohms (blue trace) not rolling off by 3dB until 130kHz. As a result, the Krell's reproduction of a 10kHz squarewave into 8 ohms (fig.2) featured very short rise-times and no overshoot or ringing.

The unweighted, wideband signal/noise ratio (ref. 1W into 8 ohms), taken with the single-ended input shorted to ground, was an excellent 80.4dB. This ratio improved to 89.2dB when the measurement bandwidth was restricted to the audioband and to 92.4dB when A-weighted. Spectral analysis of the low-frequency noisefloor while the Krell drove a 1kHz tone at 1W into 8 ohms (fig.3) revealed a low level of random noise, with spuriae at 120Hz and 240Hz at or below –100dB. However, a 500Hz tone was present, and further investigation revealed a tone at 1.5kHz; both lay at a negligible –93dB ref. 1W (0.0025%). The fact that they are harmonically related to the signal being amplified suggests that they might be associated with the circuitry used to correlate the output stage bias with the signal level.

Krell specifies the KMA-i800's maximum power as an enormous 800W into 8 ohms and 1.6kW into 4 ohms, both equivalent to 29dBW. *Stereophile* defines an amplifier's clipping power as being when the THD+noise reaches 1%. With that criterion, the KMA-i800 exceeded its specified power into 8 ohms, clipping at 930W into 8 ohms (29.7dBW, fig.4), even though the wall voltage had dropped from 118.2V with the amplifier idling to 113.3V with it clipping. The amplifier fell slightly short of its specified power into 4 ohms, clipping at 1.5kW (28.75dBW, fig.5), though the wall voltage had now dropped to 110V—the reason, no doubt, for the shortfall. Krell specifies

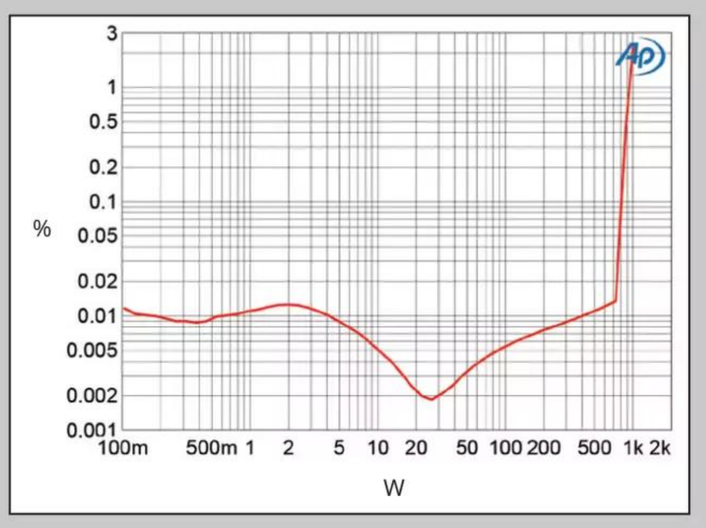

Fig.4 Krell KMA-i800, THD+N (%) vs 1kHz continuous output power into 8 ohms.

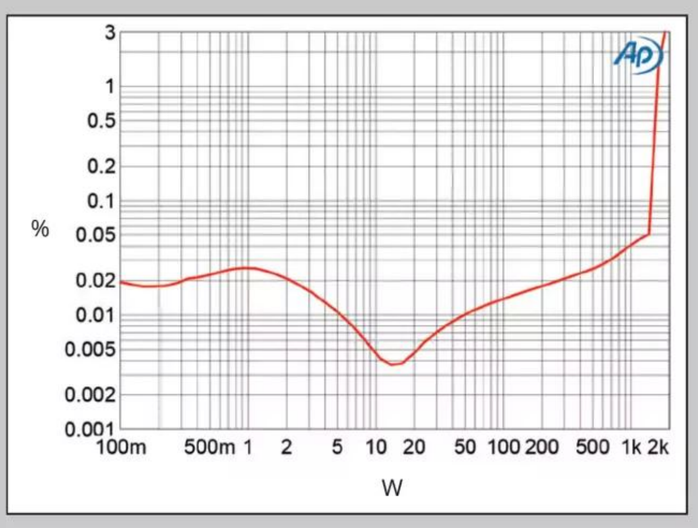

Fig.5 Krell KMA-i800, THD+N (%) vs 1kHz continuous output power into 4 ohms.

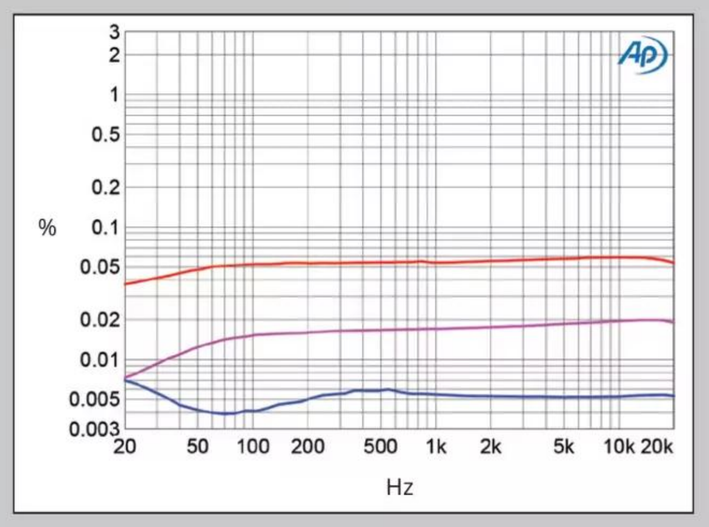

Fig.6 Krell KMA-i800, THD+N (%) vs frequency at 28.28V into: 8 ohms (blue), 4 ohms (magenta), and 2 ohms (red).

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fatiguing sound, is much lower than the second harmonic. That's why tube amplifiers with less third-order harmonic distortion tend to sound somewhat sweet and pleasant. But the second is still high enough to end up masking a lot of the performance's detail and spaciousness. With the Sym-Max and several other design techniques, we really minimize both second- and third-order harmonic distortion and deliver the best of both worlds. The third is still quite low in the KMA-i800 due to some of the advanced current-mode techniques we utilize.

"One of the other key design features, compared to previous designs, is the addition of extra driver transistors in the output stage; this gives much better control and speed over the output devices they're connected to. It also contributes quite a bit to the overall performance of the amplifier. The configuration grew out of developing a purpose-built amplifier for the tweeter section of the Apogee Grand speaker system."

Goals and values

Given the KMA-i800's huge power output—Krell says it can output 800W RMS into 8 ohms, doubling twice to 1600W into 4 ohms and 3200W into 2 ohms, and drive speakers of 1 ohm impedance—I wondered whom Dave and Rondi envisioned as buyers. "There are plenty of people out there who have rather large rooms and want commensurately large speakers they can play loudly," Dave replied. "No one is going to use this much power, but it makes average listening levels, which may go up to 100W, sound much better because that's a small percentage of the total possible power output. It's more linear than an amp that tops out at 100W, because as you approach the limit, your distortion goes up dramatically. A high-power amp gives you much more quality than an amp whose power exactly meets your needs."

As someone acutely aware of the arbitrary and frequently over-exaggerated divide between the two viewpoints commonly labeled "subjectivist" and "objectivist," I asked Dave, "When you developed the KMA-i800, were you looking at measurements or at sound? What was the final arbiter that led you to declare, 'It's done!'?"

"Quantitative measurements—distortion and noise—are there to let you know you're on the right track," he said. "Certainly, if the distortion is high enough, you're going to notice it right away; below a certain level, you won't notice it. Some of the circuit-design techniques come into play when you decide how to lower that distortion. Once you get the design to operate within a reasonable range of the objective specifications, then you start your listening evaluations and make adjustments based on how it sounds."

Setup and other considerations

With the invaluable assistance of my husband and my friend Scott Campbell, I positioned the 145lb Krell flagship monoblocks atop Grand Prix Monza amp stands, with Wilson Audio Pedestals as supports. The amps may be heavy, but their rear handles and lack of sharp external cooling fins makes them somewhat easier to handle than many amps of similar weight.

The KMA-i800s require 20A power cables. I used two Nordost Odin 2 cables with 20A connectors and drew power through AudioQuest wall outlets fed by a carefully optimized dedicated line. All front-end components in the music room received battery power from a Stromtank S 2500 Quantum MK II power generator, which was plugged into a separate circuit on the dedicated line. The first part of my streaming chain, located far away on the second floor of the main house, drew power from an AudioQuest Niagara 7000

measurements, continued

the KMA-i800's maximum power into 2 ohms as 3.2kW; I found that the amplifier clipped at a massive 2.6kW into that load (28.1dBW)! The wall voltage at that power had sagged to 109V.

I examined how the THD+N percentage varied with frequency at 28.28V, equivalent to 100W into 8 ohms, 200W into 4 ohms, and 400W into 2 ohms (fig.6). The distortion increased with each halving of the load impedance but remained very low. It also didn't increase at high frequencies, which suggests that the amplifier has a commendably wide open-loop bandwidth.

In JVS's interview with Krell engineer Dave Goodman in the main review text, Goodman said that they had worked hard to reduce the level of second-harmonic distortion so that the third harmonic was predominant though still at a very low level. This was confirmed by the THD+N waveform with a 1kHz signal at 50W into 8 ohms (fig.7) and by the spectrum of the amplifier's output at the same power (fig.8). This graph indicates that all harmonics other than the third are vanishingly low in level, with the second harmonic below –120dB. The sidebands at ±500Hz that I mentioned earlier can be seen, albeit now close to –110dB ref. 50W (0.0003%). Even at a peak power of 200W into 4 ohms, the second-order difference product at 1kHz with an equal mix of 19 and 20kHz tones lay at an extremely low –104dB (0.0006%, fig.9).

The Krell KMA-i800 offers very high power, even into low impedances, with very low levels of noise and distortion.

—John Atkinson

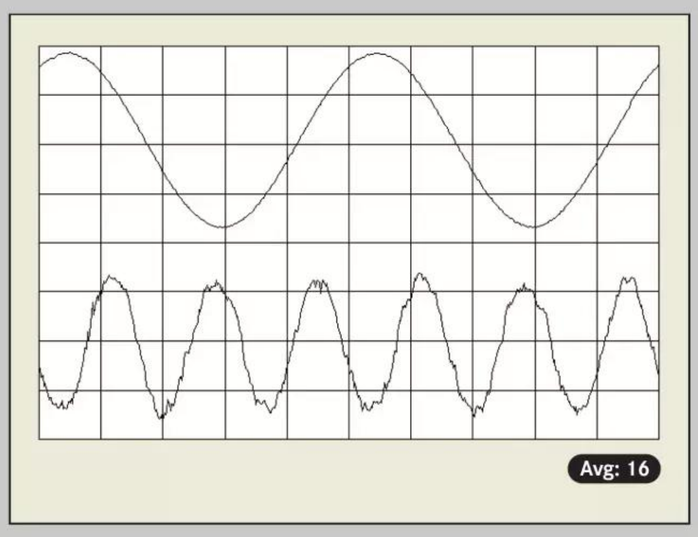

Fig.7 Krell KMA-i800, 1kHz waveform at 50W into 8 ohms, 0.0035% THD+N (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

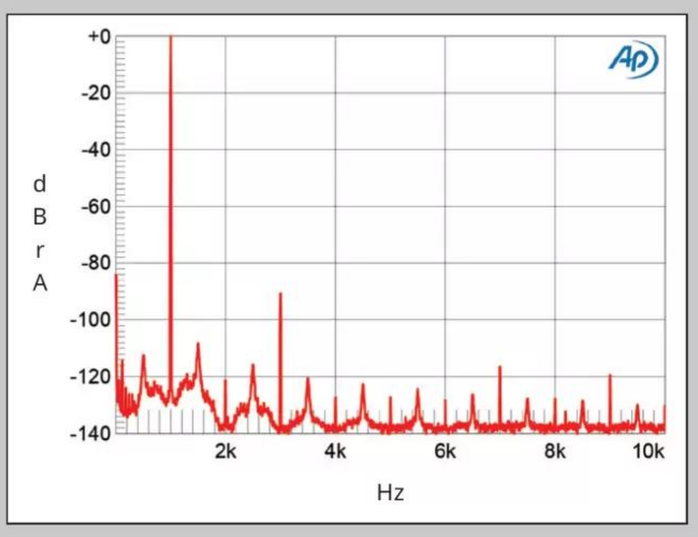

Fig.8 Krell KMA-i800, spectrum of 1kHz sinewave, DC–1kHz, at 50W into 8 ohms (linear frequency scale).

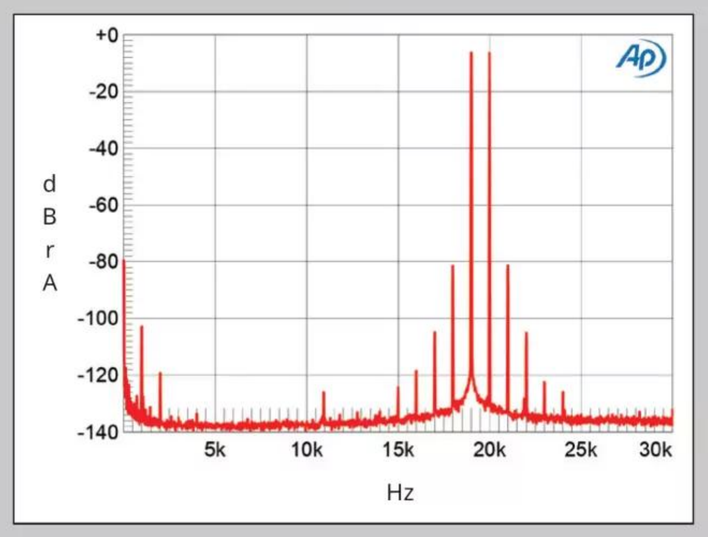

Fig.9 Krell KMA-i800, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 200W peak into 4 ohms (linear frequency scale).

power conditioner that did battle with an undedicated line that defiantly declared, "Dimmers and appliance noise are my friends!" Three cheers for the Niagara 7000, a noise-defeating fiberoptic interface, and the recent addition of high-quality Nordost and Sonore linear power supplies to the start of my streaming chain.

The outstanding visual feature on the Krell KMA-i800's handsome, understated front panel is two slim vertical indicator lights, 6" or so in height; these lights frame a curved, extended front section that displays the Krell logo and model designation. The vertical lights radiate green in standby/idle and pleasing (to my eyes) blue when the Idle / On button situated below the logo is engaged. The amplifier draws less than 1W at idle, while "On" raises consumption to 260W with no music playing. Dave thrice assured me that only 25 minutes of warm-up was necessary to get the amps singing optimally. I resolved to leave them on idle until a half-hour before listening sessions began.

The monoblock's intelligently laid-out rear panel includes the previously mentioned vertical handles, which make lifting easier. There are two pairs of gold-plated speaker cable binding posts; choose whichever is most convenient. The binding posts are outfitted with European-style plastic connectors; their large tighteners are extremely easy to tighten. Below the two left speaker outputs sits a white main power switch. The 20A IEC connector is a fair distance away from all cable connections, making cable separation easy. RCA and XLR inputs are located at the top right of the panel, where they are easily accessed. Below the right outputs are a 12V trigger input and the aforementioned Ethernet port for system monitoring, and also for software updates.

Listening

True to the promise of iBias, the two KMA-i800s ran sufficiently cool as to require turning on the heat during the Pacific Northwest's late fall.[7] As Dave Goodman had claimed, the sound was noticeably warm, full, and well-controlled.

Of all the many listening sessions I spent with these monoblocks, the most revealing was my last. My guest, noted jazz and rock photographer Rey Alvarado, had just returned from a multiday shoot of jazz guitarist Mike Stern, who played with Blood, Sweat & Tears, Billy Cobham, and Miles Davis before launching his award-winning solo career. Rey arrived with a well-considered playlist that began with the Tomasz Stańko Quintet's "So Nice" from *Dark Eyes* (16/44.1 FLAC, ECM/Qobuz). The sound was lovely, airy, and quite warm. The piano's high notes rang convincingly, and cymbals were clear and realistically depicted in three-dimensional space.

I was particularly struck by the delicacy and believability of Olavi Louhivuori's brushes on the drumhead. "I thought I'd heard every bit of the snare drum he's using," Rey declared. "I know that snare drum; yet I heard sounds, including crisp triplets, that I'd never heard before on any system. With some amps, the true sound of a snarehead is lost. And the bass sounded so good!"

When we turned to the Stańko quintet's "Terminal 7" from the same recording, I loved how up close and personal percussion sounded. I also reveled in the fullness of Jakob Bro's guitar and the sounds of Anders Christensen's electric and double bass.

Next, loads of foot-tapping, danceable fun from the album version of Poncho Sanchez's "One Mint Julep" from the 2003 CD *Out of Sight* (16/44.1 FLAC, Concord/Qobuz). The soundstage was wide and the music so irresistible that we went on to explore Sanchez's version of Herbie Hancock's "Canteloupe Island," from *Psychedelic Blues* (16.44 FLAC, Concord Picante/Qobuz).

Given how many of these performers Rey knew personally, I eagerly awaited his next selection, Charlie Hunter & Pound for Pound's "Huggy Bear," from the illicitly titled album *Return of the Candyman* (16/44.1 FLAC, Blue Note/Qobuz). Shortly after the music began, Rey muttered: "Jesus."

"When you spend as much time with jazz recordings as I do," Rey explained after the track ended, "there's an anticipation that's as emotional as it is physical. On Stefon Harris's vibes, I could hear the sound travel across the soundstage as he moved up and down the scale. Most of the time, except when the vibe player is a front man like Lionel Hampton or Gary Burton, it's rare that anyone records vibes so front-of-stage that a pair of microphones picks up the player's movement. But Charlie Hunter is particularly generous with his sidemen; he always plays to the greater good of the song. He's the kind of cat who will bring in someone like Kurt Elling to sing on one of his tracks. I've never before heard vibes sound so rich on a recording. Tonight, I've also heard tonalities, overlaps, and fade outs that I've never heard before."

We followed up with vocals: Shirley Horn's title track from *Travelin' Light* (16/44.1 FLAC, Impulse!/Qobuz), suggested by my friend Scott Campbell; Patricia Barber's Jim Anderson–engineered "The Thrill Is Gone," from *Café Blue* (16/44.1 FLAC, Premonition/Qobuz), picked by Rey. Even in Red Book, Anderson's mastery of air, space, and openness came through gloriously. "The upright bass sounds so realistic!" Rey exclaimed. "I know that Tony Banda's bass on Sanchez's 'One Mint Julep' is electric. I've seen

RONDI D'AGOSTINO TALKS WITH JASON VICTOR SERINUS

"Once I thought I had the best hi-fi system that I could get. But then I would listen to a new product and be shocked to hear something that I hadn't heard before. It always gave me a thrill, and I was always sorry that my old system didn't sound as good." Lest anyone think Rondi D'Agostino is even a little bit new to hi-fi, she clarified in our chat how long she'd been pursuing audiophile bliss. "I got into audio through my love of music," she told me. "I grew up in the '50s and '60s just outside of San Francisco in Sausalito, and I listened to many of the bands that played the Fillmore West and Avalon Ballroom. My mother went to UC Berkeley and was a psychiatric social worker, and my father was a founding member of the Longshoremen's Union in San Francisco. I had a boyfriend who owned a jazz club, so we'd do jazz a couple of times during the week and then hit the Fillmore and the Avalon on the weekends to see who was playing.

"One time my mother said she and my father were going to have dinner with their old friends, the Levinsons. My mother also taught part-time at Yale, where Mark's father was a psychologist. It was through Mark that I got into audio. Eventually, I arrived in NYC toward the end of 1969."

That was only six months before I returned to NYC, the city of my birth. As thoughts flashed back to the few months in 1970, when I was working nights at Gem (aka Gem's) Spa, at the corner of Second Avenue and St. Mark's Place, dispensing egg creams to drugged-out concertgoers who staggered down the block from the nearby Electric Circus at 2am in desperate need of a sugar fix, I was reminded how deeply audiophiles are connected by music, time, and place.

Rondi helps determine the ultimate sound of Krell components. "I listen for detail," she declared. "If there's more detail than I ever heard before, I think, 'that's great.' It's simplistic, but it's always how I listen to music and judge our new products."–JVS

the band, I've photographed the band, and I've been there when they performed this track. But the bass resonated so realistically through the Krells that one could easily and comfortably mistake it for Mingus's acoustic instrument that Stanley Clarke now owns. It sounded that beautiful!"

When we played Pat Metheny's "Lodger," from *Side-Eye NYC (VI. IV)* (24/48 MQA, Modern Recordings/Tidal), recorded live in NYC's Sony Hall in September 2019, Rey declared, "Oooh, he's using an Echoplex, which I hadn't heard before." When the track concluded, I thought about how well the Krells underscored my system's communicative power and declared, "Now it's my turn to blow your mind!"

A minute later, we both sat enthralled as I turned off the lights and Maria Callas sang a chilling "Una macchia è qui tuttora," the "sleepwalking scene," from Verdi's *Macbeth*, superbly recorded in wide-stage stereo in September 1958 with Nicola Rescigno and the Philharmonia Orchestra (24/96 MQA, Warner/Tidal). I've played this recording countless times; each listen awakens me anew to Callas's multiple revelations of Lady Macbeth's blood-stained subconscious thought, horror, and guilt. No voice has transmitted Lady Macbeth's cold-as-ice heart and cunning on record as explicitly as Callas's. Though her anything-but-pure voice sounded considerably warmer than it is customarily reproduced, its emotional import came through clearly.

The next day, Rey told me that while Callas is anything but his go-to music, it was all he could talk about when he got home.

Conclusion

I greatly enjoyed my time with the Krell KMA-i800 monoblock power amplifiers. While I doubt I used more than a fraction of the amplifiers' 1600W into 4 ohms, they delivered sound whose fullness, dynamic range, speed, clarity, and resolution rivaled that of the finest amplifiers I've been privileged to review. Without question, they are a top-rank product. For audiophiles with a sufficient budget who love to wrap themselves in a warm envelope of detailed sound and revel in the glories that fine artists can create and capture on a recording, they are a must hear. ■

7 In normal operation, the heat put out by the KMA-i800 is modest. It is interesting to note, just for the Wow Factor, that operating at full power into 4 ohms, each amp would put out nearly 11,000BTU—information provided by Krell in their specifications. Of course, the amp will almost never use that much power, and then only very briefly.—**Jim Austin**

ASSOCIATED EQUIPMENT

Digital sources dCS Vivaldi Apex DAC, Vivaldi Upsampler Plus, and Vivaldi Master Clock; Innuos Statement Next-Gen Music Server; Small Green Computer Sonore Deluxe opticalModule; Uptone Audio EtherRegen with SOtM sCLK-OCX10 Master Clock and sPS-500 power supply; Nordost QNet switch and QSource linear power supplies (2); Sonore Audiophile Linear Power Supply; Synology 5-bay 1019+ NAS with Ferrum Hypsos linear/switching hybrid power supply; Linksys MR9000 mesh router and Arris modem; Apple 2023 iPad Pro and 2017 MacBook Pro laptop with 2.8GHz Intel i7, SSD, 16GB RAM.
Preamplifier Dan D'Agostino Momentum HD.
Power amplifiers Dan D'Agostino Momentum M400 MxV monoblocks.
Loudspeakers Wilson Audio Specialties Alexia V with Lōke subwoofers.
Cables Digital: Nordost Odin 1, Odin 2, and Valhalla 2 (USB and Ethernet), Frey 2 (USB adapter); AudioQuest WEL Signature; Wireworld Platinum Starlight Cat8 (Ethernet), OM1 62.5/125 multimode duplex (fiberoptic). Interconnect (XLR): Nordost Odin 2 and Blue Heaven subwoofer, AudioQuest Dragon, Canare (subwoofers). Speaker: Nordost Odin 2, AudioQuest Dragon. AC: Nordost Odin 2, Valhalla 2, Valhalla 1; AudioQuest Dragon and Firebird. Umbilical cords: Ghent Audio Canare on NAS; QSource Premium DC cables with Lemo terminations for QSources; SOtM sPS-500 umbilical cable for SOtM Master clock.
Accessories Grand Prix Monza 8-shelf double rack and amp stands, 1.5" Formula platform; Symposium Ultra Platform; Nordost 20-amp QB8 Mark III, QKore 1 and 6; Titanium and Bronze Sort Kones, Sort Lifts; Stromtank S 2500 Quantum MK II power generator, SEQ-5 Audio Distribution Bar; AudioQuest Niagara 7000 and 5000 power conditioners, NRG Edison outlets, JitterBugs; Environmental Potentials EP2050EE surge protector/filter; Wilson Audio Pedestals; A/V RoomService Polyflex Diffusers; Resolution Acoustics room treatment; Stillpoints Clouds (8); HRS DPX-14545 Damping Plates; Marigo Aida CD mat.
Listening room 20' L × 16' W × 9'4" H.—**Jason Victor Serinus**

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KEN MICALLEF

Gold Note Mediterraneo X

RECORD PLAYER

Though the hotel halls of Capital Audiofest 2023 were not as busy as some exhibitors might have hoped, the event's listening rooms were filled to the brim with choice equipment, practically overflowing. One piece that captured my attention was a turntable that embodies thoughtful design and contemporary Italian style: the Gold Note Mediterraneo X ($12,999). This elegant turntable combines traditional materials with touch-friendly digital technology in arresting fashion.

An exploration of the artistry and expertise behind the Mediterraneo X is a journey through Italian craftsmanship.

Gold Note Founder and CEO Maurizio Aterini spearheaded the project, but the creation of the X involved the entire Gold Note team. The turntable design originated with architect Stefano Bonifazi, a consistent contributor to Gold Note products from speakers to electronics. Working with him was Product Designer Marco Attal. Mechanical engineering was handled by audio engineer Flavio Lenzi, electronic hardware by Chief Electrical Engineer David Scandagli and Senior Electrical Engineer Giovanni Rialti. Software Engineer Stefano Bellucci developed the firmware for motor control, speed adjustment, torque control, and user interface (UI).

"The idea behind the Mediterraneo X was to elevate the [original] Mediterraneo turntable in terms of performance, design, materials, and features, pushing that architecture to a new level," Gold Note Product Manager Tom Dolfi told me in an email. "At the

SPECIFICATIONS

Description Belt-driven turntable with variable torque motor, touchscreen user interface, and attached, smoked acrylic dustcover. Speeds: 33 1/3 and 45rpm. Platter: 12" (304.8mm), 15.5lb (7kg) aluminum and high-density POM. Wow & flutter: <0.1%. Rumble: –82dB. Motor: 12V synchronous. Tonearm: 9" B-7 Ceramic, gimbal-style with titanium wand, aluminum headshell, and ceramic ball bearing. Total length: 325mm. Effective length: 242mm. Pivot-to-spindle distance: 9". Overhang: 19mm. Offset angle: 24°. Effective mass: 10gm. VTA: adjustable on collar. Azimuth: adjustable on headshell. Internal wiring: AWG36 Hyper Litz shielded 99.99% OFC. Signal output: chassis-mounted RCA sockets. Power supply: 18V DC, 100–240V / 50–60Hz. Power consumption: 27W max.
Dimensions 18.5" (470mm) W, 8.72" (210mm) H (including dustcover), 14.17" (360mm) D. Weight, turntable only: 55.11lb (25kg). Tonearm: 200gm.
Finish Gold Leaf or Italian Walnut Hardwood with matte black varnished aluminum upper plinth, black anodized aluminum platter and other metal parts.
Serial number of unit reviewed 0084670.
Manufactured in Italy.
Price $12,999. Approximate number of US dealers: 43.
Warranty: two years.
Manufacturer
Gold Note, Via del Virginio 158,
Montespertoli (Florence) 50025,
Italy.
Email: info@goldnote.it.
Web: goldnote.it.
US distributor:
Fidelity Imports,
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PHOTOS BY GOLD NOTE

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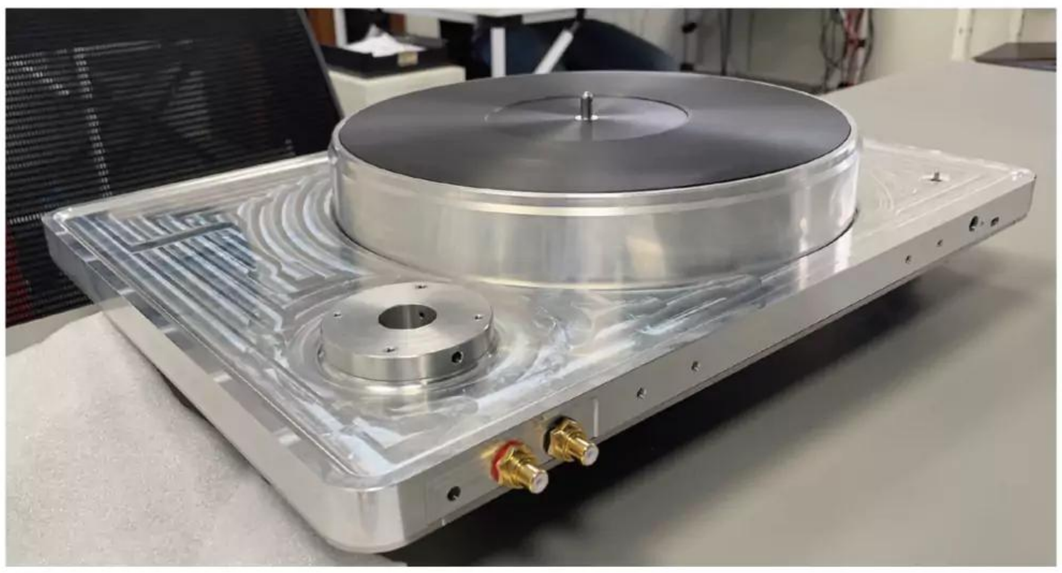
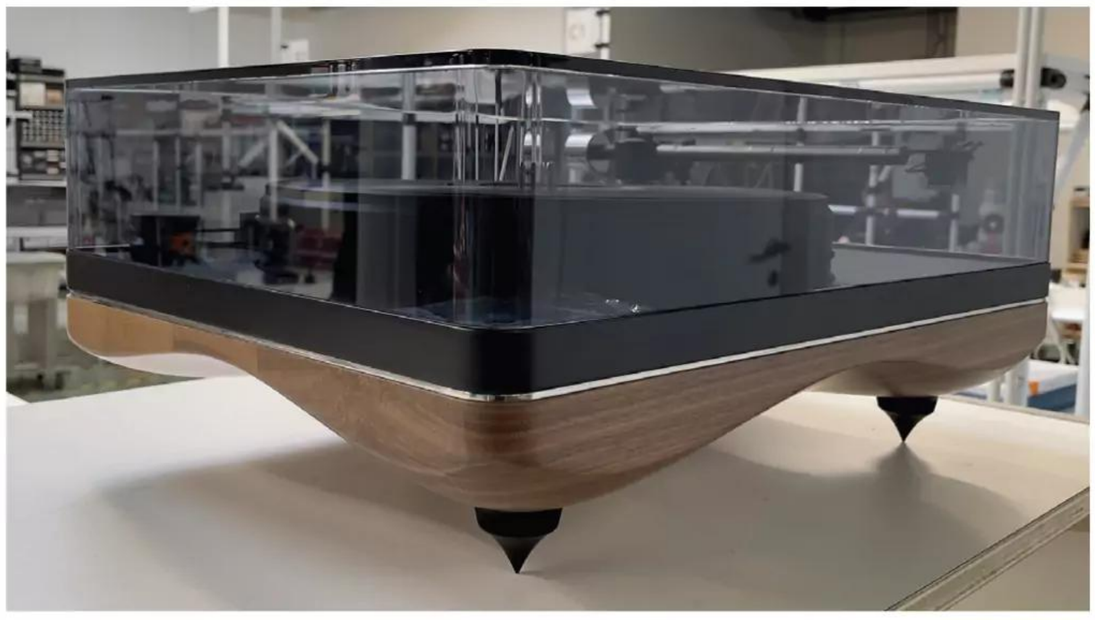
same time, the X was the perfect playground to experiment with a new design language, introducing shapes and materials that will cascade on other turntables and are fully leveraged on the flagship model—all of this while preserving the spirit of the original Mediterraneo. Hence the name Mediterraneo X, where X is the Roman number for 10, as in our 10th anniversary as Gold Note."



A major presence in Italian audio, Gold Note has appeared in prior issues of *Stereophile*—in Jason Victor Serinus's take on Gold Note's DS-10 D/A processor in July 2020, Michael Fremer's review of the PH-1000 phono preamplifier in February 2022, and the same reviewer's take on the Tuscany Gold MC cartridge in February 2017. Fresh from reviewing the Gold Note PH-5 phono stage for AnalogPlanet.com, I was curious to hear more of the big Italian brand's audio offerings.



Top to bottom: The Mediterraneo X in various stages of production and testing.

Gold medal design

The X is one quiet record player. In my informal tests, tapping, poking, or rapping on its plinth during playback caused zero vibration/rumble/noise to its cartridge/tonearm assembly. When asked what made that possible, Stefano Bonifazi replied by email.

The X's plinth "is a triple-layer architecture of materials with different densities and structures to break resonance patterns and prevent the transmission of vibrations," he wrote. "The [materials] are also shaped to be as inert (nonreactive) as possible, which is particularly visible in the bottom wood layer, designed following the principle of the catenary arch, a naturally occurring curve with high strength, stability, rigidity, and damping qualities. This type of arch was developed by Michelangelo to design the bridge of Santa Trinita in Firenze as well as by Filippo Brunelleschi to engineer the dome of the Duomo in Firenze.

"Many of the X's surfaces and planes are not actually physically connected—the platter spindle spins on a ceramic ball bearing housed underneath the wooden plinth in a custom brass nut, shielded from vibrations—or leveraged by some form of decoupling, such as elastomers applied to feet and around the motor," he continued. "Another contributing factor is the effective mass/shape combination: The mass is high but not crazy high, but the shape and the triple-layer structure enhance it so that it dampens vibrations as a much heavier object would."

That triple-layer plinth comprises a top-facing layer of aluminum, "CNC-machined from a solid block to achieve a single-piece layer," Marco Attal wrote. "The aluminum is then treated with liquid coating to prevent electrical interactions between the metal components, and to ensure the correct grounding."

"The aluminum plinth is treated by applying three layers of coating by hand, with a sequence of primer/liquid paint/clear coat," Tom Dolfi wrote. "Such a 'cocktail' serves multiple purposes other than just providing the finish and color to the plinth. It's crucial in preserving the aluminum from the effects of the environment (humidity, heat, and other agents) and—equally important—ensuring the plinth is correctly grounded so that there's no parasitic currents/capacitance in the system, but also preventing 'ghost inputs' as we call them on the unit's touchscreen display."

"The [curvaceous] bottom layer is made of Italian Walnut hardwood," Attal continued. "The hardwood undergoes a special autoclave treatment to make it inert, more resistant, and suitable for this application—especially important because our turntables can be found in all sorts of climates, from the hot and humid to the dry and cold. Finally, the two layers are joined together with a 3mm-thick slab of stainless steel."

Gold Note mounts its gimbaled, B-7 Ceramic X tonearm on the X. The B-7's wand is made of titanium and stabilized with four high-precision ceramic ball bearings manufactured by GRW of Germany. A stainless steel counterweight provides balance. Dolfi described the B-7 as a "9" straight tonearm (I-type)," but he implored that it's no knockoff. "All our tonearms are completely made and tested by hand, in-house. Each tonearm requires more than 100 individual components to be fully built."

The B-7 Ceramic's headshell uses a 6000-series aluminum alloy for resonance control. Hardwired Litz-type AWG36 cables, crafted from oxygen-free copper (OFC), ensure pure signal transmission.

"The vertical, ultralow-friction ceramic ball bearings are pivoted through stainless steel bolts," which can be adjusted manually, states a Gold Note distributor page. "The horizontal movement is driven by two micro ball bearings directly inserted in the main rectified pivot."

Two discreet, 2mm microbolts at the front of the tonearm wand allow for azimuth adjustment, while a pair of bolts embedded in the central post provide VTA control. The tonearm's antiskating bar is made of a polymeric resin, "chosen for its rigidity (Tensile and Flexural Modulus) and light weight," Attal wrote. "All the

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[other] parts used for the tonearm are custom made of CNC-machined aluminum and brass, including the cueing lever."

The X's platter weighs almost 16lb. Like the plinth, its construction is composite, made of aluminum and a "donut of POM ... to provide the desired mass and stability," Stefano Bonifazi wrote. The platter spins on a ceramic, 1/8" ball bearing via a carbon steel spindle set within a bronze housing.

Gold Note supplied a floppy, surprisingly thin felt mat, a curious choice for a turntable costing $12,999. "In our tests, the felt mat performs quite well," Dolfi wrote. "We used to also supply a mat in gel, which we discontinued in 2019."

The motor is one of the X's most interesting and distinctive features. "For the Mediterraneo X, we chose a variable-torque motor, which allows the listener to control the torque applied to the platter in real time and while spinning records. A high-torque setting results in a performance reminiscent of direct-drive, while a low-torque setting is more in line with the sound of the belt-drive. The motor is decoupled from the plinth through elastomers, and secured in the housing with an aluminum bracket which is also decoupled thanks to custom spacers made of resin."

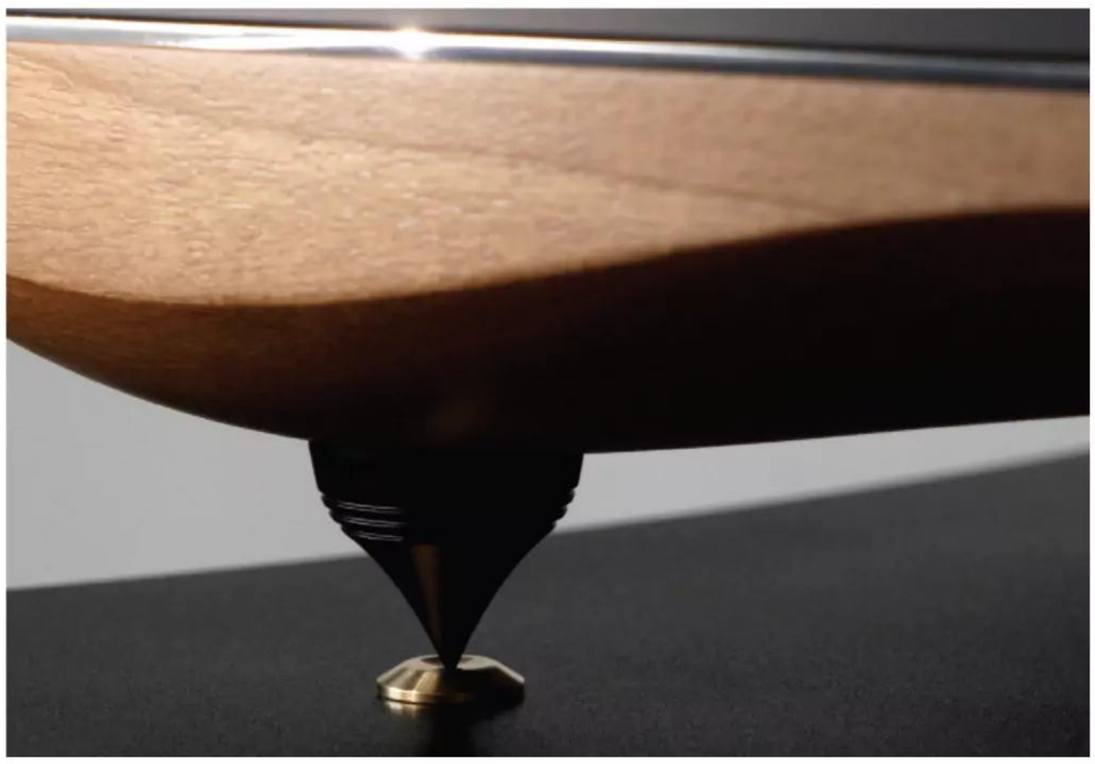
The motor is supplied by Johnson Electric of Hong Kong. "We have been using their motors for turntables for years," David Scandagli said. The Johnson motor drives a belt made of EPDM. Finally, three tanklike adjustable feet are CNC-machined from solid aluminum blocks.

This is a smartly designed, handily appointed, tricked-out turntable, as robust in conception as it is beautiful. At $12,999 it isn't cheap, but its build quality and design speak to its serious intent.

Easy setup

The Gold Note Mediterraneo X arrived protected in a robust cardboard package. Four precisely cut foam rubber sections cradled several turntable parts, each illustrated in the accompanying manual.

The tonearm was premounted and calibrated; all I needed to do was follow the instructions regarding platter placement. Gold Note even supplied a thick "lifting eye bolt" that screws into the platter, making moving it from the box to the turntable a breeze. That done, I mounted a VPI Shyla MC cartridge on the headshell, looped the nylon antiskate wire around the provided adjustment bar, slid the counterweight over the tonearm's aft stub, and dialed in the tracking force using my Riverstone Audio Precision Record Level. I looped the belt around pulley and platter and verified the cartridge alignment using a Dr. Feickert Universal Protractor. VTA and azimuth appeared spot on.



Setup complete, I turned my attention to mastering the Mediterraneo X's intuitive 2" × 2.5" glass touchscreen display. The display's large, easy-to-read white symbols against a dark background make navigation effortless. The interface controls key functions including power, torque, rotation speed, a timer, touchscreen brightness, even cartridge selection. Very handily, it has a built-in cartridge timer.

With a tap, I accessed the torque-control menu, allowing me to adjust the force applied by the motor to the pulley and platter. "Torque needs to be calibrated accurately, as it's an act of balance between several factors: platter weight, startup time, speed accuracy, motor strain, motor heat," Dolfi explained. "This provides the ability to adjust the torque within the range of optimal performance, so that the parameters listed above are maintained in balance."

"Changing the torque will result in subtle audio differences depending on the combination of cartridge and vinyl," states the manual. "The torque changes in real-time while the platter is spinning to give you instant feedback. You can choose [among] five settings: 5 white bars = maximum torque, 1 white bar = minimum torque." I was the drummer for a rock band called Maximum Torque in the 1970s, but that's another story.

The cartridge timer tracks elapsed playing time for up to three cartridges—as long as you remember to start it and stop it, since operation is fully manual. "You can see the time count in minutes for each cartridge and reset it," the manual states. When a cartridge totals "more than 1000 minutes of playback," you know it requires maintenance. Probably that should read 1000 hours, and in the latest revision, the timer does not change color, but having a built-in timer eliminates guesswork in deciding when to replace, rebuild, or at least inspect your phono cartridge

These two features, adjustable torque and the cart timer, are unique in my experience.

Using my iPhone's RPM app, I confirmed the X's accuracy, measuring a nearly flawless and stable 33.27rpm with no music playing hence no stylus drag.

The X was a pleasure to use, from its rapid startup to its gentle and precise cueing lever. Apparently, the default torque setting is quite high: Even as I wiped dust off records, the X maintained perfect speed and drive. I opted not to use the dust cover while music was playing.

Gossamer daydreams

The Mediterraneo X contrasted sharply with the overt sensuality and hedonistic imagery of certain Italian-art stereotypes, including Giulio Romano's "Wedding Feast of Cupid and Psyche," which

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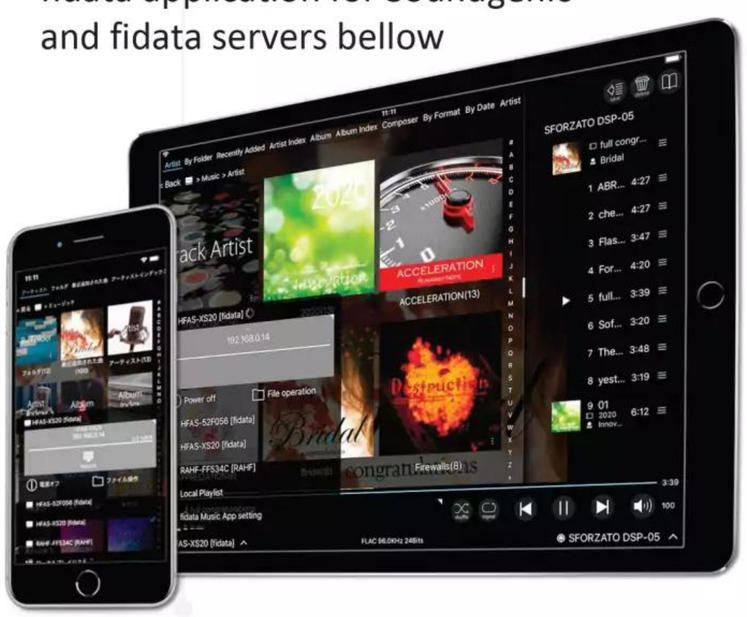

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to modern eyes looks like a bacchanalia of lascivious intent, with nude revelers and plentiful flagons of drink. I *have* reviewed Italian hi-fi that nearly fits that description, where heavily saturated colors and muddy lows sagged to support sweetened highs.

The X exudes a contemporary, understated beauty more reminiscent of the current Italian art and design scene. It soars down the road with neutrality and speed—rhythmically agile, punchy, with the solid foundation of a much heavier turntable. No matter what vinyl I threw at it, from the metal of Mastodon and cool swing of Art Pepper to the superhigh-rez recreations of current Prestige OJC and Blue Note Tone Poet titles, the X steeled it with composure, delivering clear-headed romance and stone-solid yet warm realism in equal quantities.

I was curious how the X would compare to that king of Pace, Rhythm, and Timing (PraT), my 65-year-old Thorens TD 124, newly outfitted with The Wand tonearm. On the Thorens, I ran a Luxman LMC-5 MC cart, which, at $2695, is similar in price to the $2000 VPI Shyla I used with the X. I put both 'tables through their paces with the same records using the same Japanese-made Aurorasound Vida MK.II phono stage (in for review at AnalogPlanet.com) and AudioQuest Mythical Series Pegasus RCA interconnects. Spinning the Acoustic Sounds reissue of *Relaxin' with the Miles Davis Quintet* (APRJ 7129-P), the Gold Note X's performance mirrored my original pressing more faithfully than the Thorens. Paul Chambers's upright bass pulsed with life force and grip, Miles's trumpet was creamier and larger, and Trane's tenor leapt out of the Heretic AD614 speakers with dynamism and vigor similar to what I experienced with the VPI Avenger Direct with the Hana Umami Blue MC cart. The soundstage expanded, revealing formidable dimensionality, and the music unfolded with unparalleled clarity. It was evident that that very low noisefloor—apparent at the very beginning when I tapped the X's surface—was among the X's key sonic traits, pivotal to its ability to capture the spirit and essence of the Miles Davis recording with such fidelity.

The X pulled a similar trick on "The Voices" from Canadian R&B singer Dominique Fils-Aime's *Our Roots Run Deep* (Ensoul Records ESR-LP-07). The X unmasked the track, expanding spatial cues, microdynamics, low-end throb, and soundstage size, vocal images placed in extremely specific locations within a deep wall of sound. Serious, sensual mind expansion. Brain-altering Italian hi-fi goodness.

On Aphex Twin's *Collapse* EP (Warp WAP 423), the X plunged me into the depths of Richard James's mad bass-driven pulsations while painting ethereal melodies across a darkly lit electronic stage. It flawlessly navigated the gossamer daydreaming and kinetic fire of Wayne Shorter's *Schizophrenia* (Blue Note BST 84297), bringing out the cleaner textures of the Joe Harley/Kevin Gray Tone Poet remaster while maintaining the original's fiery intensity.

Curiously, the Gold Note X's performance with Frank Zappa and the Mothers of Invention's 45rpm version of *Over-Nite Sensation* (Zappa Records/UME) didn't quite reach the heights of the Thorens/Wand/Luxman combination. The Swiss/New Zealand/Japan trio captured the raw energy and deranged artistry of Zappa's 1973 masterpiece more effectively. From Zappa's bluesy guitar solos and Ruth Underwood's breathtaking marimba flourishes to the rambling drum patterns of drummer Ralph Humphrey, the Thorens delivered a more soulful, direct, and authentically Zappa-esque rendition.

ASSOCIATED EQUIPMENT

Analog sources VPI Avenger Direct turntable with VPI Fatboy tonearm, VPI Shyla cartridge. Thorens TD 124 turntable with The Wand tonearm, Luxman LMC-5 MC cartridge.
Preamplifiers Marchand Electronics LN 110 (phono), Sugden LA 4, Aurorasound Vida MKII (phono).
Integrated amplifiers PrimaLuna EVO 400, Triode Labs 45 EVO (in for review).
Power amplifiers LKV Research PWR-3, Shindo Haut Brion, Pass Labs XA-25.
Loudspeakers DeVore Fidelity O/baby, Heretic AD614, Volti Audio Razz.
Cables Interconnects: AudioQuest Mythical Series Pegasus RCA, Triode Wire Labs Spirit II (both RCA). Speaker: AudioQuest Robin Hood (bananas). Power: AudioQuest NRG Z.
Accessories Pro-Ject VC-S2 ALU and Audio Desk Systeme Vinyl Cleaner Pro RCMs; Riverstone Audio Precision Record Level and Dr. Feickert universal protractor; Hunt Mark 6 carbon fiber record cleaning brush; AudioQuest PowerQuest 707 and IsoTek EVO3 Aquarius power conditioners; Salamander five-tier Archetype rack (2); IKEA Aptitlig bamboo cutting boards (under turntable, preamplifier, power amp, and integrated amps).
—Ken Micallef

Conclusion

At $12,999, the X has serious competition including my old Kuzma Stabi R ($11,139 with one arm wing but no tonearm); the Pure Fidelity Harmony ($9995 including tonearm and cartridge); the AMG Giro MK II ($8500 without tonearm); the J.Sikora Initial ($9995 without tonearm); and the excellent Thorens TD 124 DD with TP 124 tonearm ($11,999).

An extremely communicative, spookily quiet, smooth, soulful turntable, the Gold Note Mediterraneo X made itself and me comfortable from its first needle-drop. Though smooth and quiet, it never strays into blandness or homogeneity. It boasts exceptional forward momentum and, with the right cartridge, faithful adherence to the recorded source. This Gold Note 'table delivers a consistent, flowing, nonmechanical musical experience.

The resurgence of vinyl and turntables is undeniable, and the Gold Note Mediterraneo X stands as a testament to our enduring love affair with these magnificent analog machines and the vinyl records they bring to life. ■

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JASON DAVIS

Rogue DragoN

MONOBLOCK POWER AMPLIFIER

When Editor Jim Austin asked me to review the new Rogue Audio DragoN monoblock amplifier, my first thought was, "Isn't that Herb's beat?"

A quick scan shows that Rogue Audio has been prominent in *Stereophile*. The magazine has reviewed quite a few Rogue Audio products, including the RP1 preamplifier, the several versions of the Sphinx integrated, the Pharaoh II integrated, and the Stereo 100 power amplifier.[1] Indeed, Rogue has had a a near-continuous presence over the past decade on *Stereophile*'s coveted "Recommended Components" list. That's an impressive track record, and accessibly priced tube gear has been Herb Reichert's forté.

As a new *Stereophile* reviewer, that led me to a moment of panic: What if I get it wrong? Then I thought of something I read in this very magazine: Don't think about the sound. Focus instead on how the review component impacts the music. And so I shall.

About the DragoN

The DragoN monoblock is the latest amplifier from Rogue Audio's Mark O'Brien. The DragoN is a hybrid *of* tubes and class-D, using Hypex's class-D NCore module in the output stage. Hence the big N in the name of the product.

Rogue Audio calls this its "proprietary tubeD circuit." Rogue says the DragoN combines power, musicality, and finesse for "dynamics and transparency without any of the edgy, etched, or grainy sound that often accompanies solid state designs." That you can read on the web, on the product description page.[1] I asked Rogue General Manager Nick Fitzsimmons to expand on the concepts and design choices that make the DragoN monoblock different from Rogue's other amplifiers.

"The tubeD circuit topology is our in-house method of combining tubes and class-D and encapsulating them in a global feedback network, which allows the tube to saturate the audio circuit," Fitzsimmons wrote in an email. "The tubes are actually included in the class-D circuit *vis-à-vis* a small global feedback circuit that forces the MOSFET class-D output to behave (and sound) like a tube circuit. ... We feel this provides the end user with an amplifier that has solid state punch combined with the midrange magic that only tubes can achieve.

"Our hybrid, tubeD amplifiers offer a higher damping factor for tighter bass control, and they also produce higher power into 4-ohm loads; this allows for a wider range of speaker compatibility, and it also helps improve low-end response with difficult-to-drive speakers."

Rogue has used class-D modules from Hypex since 2012, when the company released the Medusa and Hydra power amplifiers. I asked Fitzsimmons why Rogue chose Hypex NCore modules over those from other companies.

"We experimented with various modules before choosing Hypex for our designs," he replied. "We found the Hypex modules offered a very neutral sonic presentation, which allowed us to inject our own tube flavor. They also allowed us to bypass some of the built-*in circuitry so* that we could use our own input and buffer stages, as well as our own linear power supplies."

Unboxing

I had roofers stomping on and spray-foaming my home's flat roof on the day of delivery, a process that continued through the following weekend. I used the noisy time to reorganize the layout of my

1 See rogueaudio.com/Products_DragoN-mb.htm.

SPECIFICATIONS

Description Hybrid tube/class-D (Hypex NCore) monoblock power amplifier. Tube complement: 1 ECC802. Output power: 325W into 8 ohms (25.1dBW), 525W into 4 ohms (24.2dBW). Frequency response: 20Hz–20kHz, ±1dB. THD: <0.1% typ., <1% at rated power. Input sensitivity: 0.75V RMS. Input impedance: 30k ohms.
Dimensions 12 1/2" (317.5mm) W × 5.5" (140mm) H × 19" (483mm) D. Weight: 33lb (17.7kg).
Finish Black steel chassis with black or silver faceplate.
Serial numbers of units reviewed 0550, 0551. Designed and built in Pennsylvania.
Price $5995/pair. Approximate number of US dealers: 85+. Warranty: 3 years against defects in materials or workmanship; 6 months for tubes.
Manufacturer
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545 Jenna Dr.,
Brodheadsville, PA 18322.
Tel: (570) 992-9901.
Email: info@rogueaudio.com.
Web: rogueaudio.com.

Massif Audio Design "Dogma" rack to accommodate the DragoNs on the bottom shelf, then streamed the local classical/jazz station[2] during my workdays until I began critical listening.

The boxes arrived well-packed, and the amps snug within. Each 40lb package was manageable; I was able to move it from the doorstep to my living room without enlisting the help of the perpetually annoyed longhaired teenager down the hall.

Size-wise, the DragoN resembles an extra-thick briefcase, with an understated aesthetic I dig. Each measures 12.25" W × 5.5" H × 19" D and weighs 33lb. Also contained in the boxes were a printed user manual, a branded sticker, and a standard power cord of good quality.

I had opted for black faceplates to match the rest of my gear; a silver/aluminum finish is also available. Centered on the milled-aluminum faceplate is a "Standby" pushbutton within a circular recess; the button is surrounded by three LEDs that alert the listener to the amp's status: blue above the button indicates the amplifier is fully operational; yellow at bottom left indicates standby mode; red at bottom right indicates a problem. The brand's name is engraved in italicized block letters beneath the recess and was not observable from my listening chair. A small, rectangular mesh grille/vent is centered at the top panel near the front panel. Through it, you can view part of the PC board, an assortment of capacitors, and a vacuum tube.

Around back are the usual bits: a power switch at bottom left, with the Rogue Audio logo and "DragoN *MONOBLOCK AMPLIFIER*" screen-printed above it; high-quality speaker output terminals sit top center; and an IEC receptacle is mounted beneath, with a fuse to its right. A toggle switch at right allows you to select input options, XLR/Balanced or RCA. The actual connections are far right, to the right of the toggle switch, XLR above, RCA below.

Each DragoN monoblock's class-D output stage is capable of putting out 325W and 525W into 8 ohm and 4 ohm loads, respectively. And then there's that single vacuum tube: an ECC802S, which is a long-plated 12AU7 dual-triode preamplifier tube, used here in the input stage. Fitzsimmons said that the tubes Rogue Audio selects for the DragoNs are new-production JJs, manufactured in the Slovak Republic, internally balanced and matched.

"Tube rolling is part of the fun of owning tube equipment, and the DragoN amps are very responsive to tube rolling," he said, adding that the use of aftermarket tubes will not impact the warranty as long as they are the correct type. MSRP is $5995 per pair.

Setup

I used the stock power cords connected to the high-current zones of my AudioQuest Niagara 1200 power conditioners, each of which is plugged into a dedicated 20A circuit via a hospital-grade outlet.

The preamplifier was my reference Linear Tube Audio (LTA) microZOTL, which, in my reference system, is matched to an ZOTL40 Reference+ stereo amplifier[3]—a push/pull, class A/B output-transformerless amplifier specified to produce a mere fraction of the Rogue monoblock's output power: above 50Wpc via four EL34 tubes, two for each channel. The microZOTL preamp

2 See capradio.org.

3 Mine is evolutions newer than the amp HR reviewed at stereophile.com/content/linear-tube-audio-zotl40-mkii-power-amplifier.

MEASUREMENTS

I performed a complete set of measurements on one of the Rogue DragoNs (serial number DRAM-0551) with my Audio Precision SYS2722 system.[1] As the DragoN has a class-D output stage, I inserted an Audio Precision AUX-0025 passive low-pass filter between the test load and the analyzer. This filter mitigates noise above 80kHz and eliminates noise above 200kHz that would otherwise drive the SYS2722's input circuitry into slew-rate limiting. Without the filter, there was 408mV of ultrasonic noise with a center frequency of 416kHz at the amplifier's output terminals. I used the Audio Precision filter for all the tests other than frequency response. The Rogue remained cool during the testing; the temperature of the top panel after three hours was 80.4°F (26.9°C).

The Rogue amplifier's single-ended and balanced inputs preserved absolute polarity, ie, the XLR jack is wired with pin 2 positive. The DragoN's balanced input impedance was a very high 178k ohms at 20Hz and 1kHz, dropping inconsequentially to 157k ohms at 20kHz. The single-ended input impedance was lower but still high at 29k ohms at 20Hz and 1kHz, 24k ohms at 20kHz.

While the single-ended input's voltage gain at 1kHz was 30.35dB, the balanced input's gain was 6dB lower rather than the usual 6dB higher. The output impedance, including the series impedance of 6' of spaced-pair cable, was very low, at 0.08 ohms at 20Hz and 1kHz, and 0.095 ohms at 20kHz. As a result, the variation in the frequency response with our standard simulated loudspeaker[2] (fig.1, gray trace) was minimal. Even without the auxiliary Audio Precision low-pass filter,

1 See stereophile.com/content/measurements-maps-precision.

2 See stereophile.com/content/real-life-measurements-page-2.

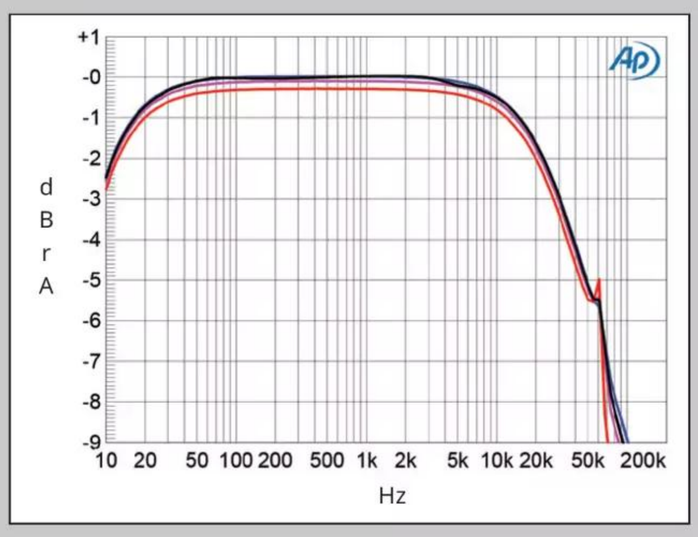

Fig.1 Rogue DragoN, frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (blue), 4 ohms (magenta), and 2 ohms (red) (1dB/vertical div.).

Fig.2 Rogue DragoN, small-signal 10kHz squarewave into 8 ohms.

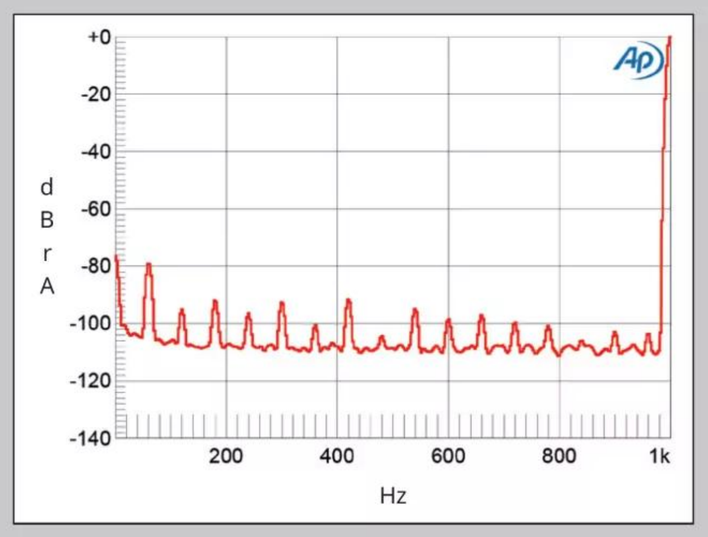

Fig.3 Rogue DragoN, spectrum of 1kHz sinewave, DC–1kHz, at 1W into 8 ohms (linear frequency scale).

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does not have balanced outputs, so, for all of my listening, I used AudioQuest Black Mamba II single-ended interconnects and the DragoNs' RCA inputs. Speaker cables were AudioQuest Rocket 44.

Fitzsimmons told me that the DragoN monoblocks are friendly to a diverse group of speaker types; in-house, Rogue Audio tests its amplifiers with speakers from Joseph Audio, Magnepan, Martin Logan, Klipsch, Eggleston Works, Zu Audio, and GoldenEar. But I doubt the DragoN had ever encountered speakers like mine.

The ESS Transtatic I is a hybrid-electrostatic loudspeaker.[4] The fabric-wrapped 120lb cabinets are three-walled, open on the inside

4 See hifi-wiki.com/index.php/ESS_Transtatic.

measurements, continued

the response into resistive loads rolled off in the top octave, lying at –1.5dB at 20kHz and at –6dB by 65kHz. Into 2 ohms (red trace), there was a hint of an ultrasonic resonance at 60kHz. The ultrasonic rolloff meant that the Rogue's reproduction of a 10kHz squarewave into 8 ohms featured lengthened risetimes (fig.2), but there was no overshoot or ringing. Repeating this waveform capture without the AUX-0025 filter didn't change the basic shape of the trace, though it was now overlaid with ultrasonic noise.

The unweighted, wideband signal/noise ratio (ref. 1W into 8 ohms), taken with the single-ended input shorted to ground and the auxiliary filter in-circuit, was a good 71.1dB. This ratio improved to 77.7dB when the measurement bandwidth was restricted to the audioband, and to 86.1dB when A-weighted. Spectral analysis of the low-frequency noisefloor while the Rogue drove a 1kHz tone at 1W into 8 ohms (fig.3) revealed a higher-than-usual level of random noise, and spuriae at 60Hz and its odd-order harmonics. These will be due to magnetic interference from the power transformer, most likely being picked up by the steel pins of the ECC802S input tube.

Rogue specifies the DragoN's maximum power as 325W into 8 ohms (25.1dBW) and 525W into 4 ohms (24.2dBW). We define an amplifier's clipping power as being when the THD+noise reaches 1%. With that criterion, the DragoN didn't meet its specified powers, clipping at 127W into 8 ohms (21dBW, fig.4) and 226W into 4 ohms (20.5dBW, fig.5). Only if I relaxed the definition of clipping to 3% THD+N did the amplifier exceed the specified powers, delivering 345W into 8 ohms (25.4dBW) and 590W into 4 ohms (24.7dBW).

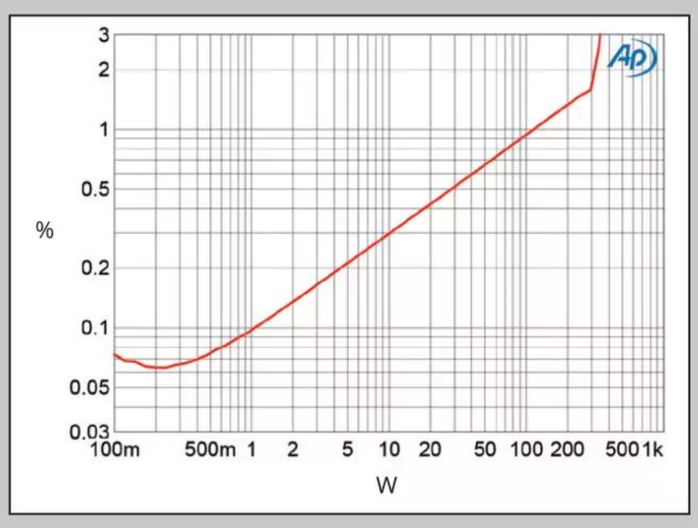


Fig.4 Rogue DragoN, distortion (%) vs 1kHz continuous output power into 8 ohms.

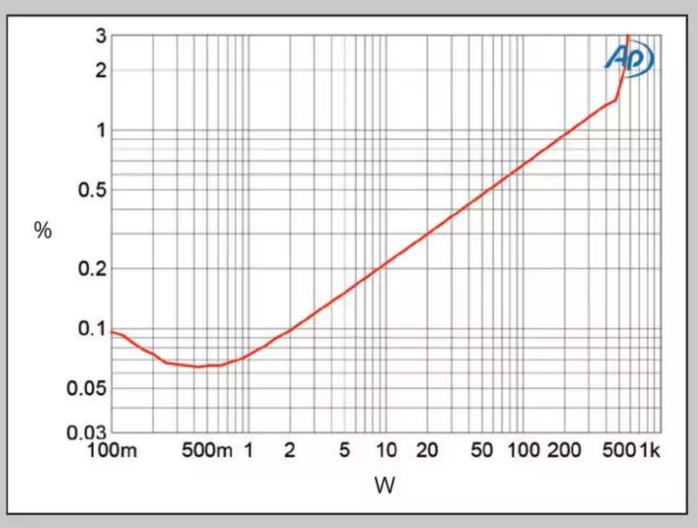


Fig.5 Rogue DragoN, distortion (%) vs 1kHz continuous output power into 4 ohms.

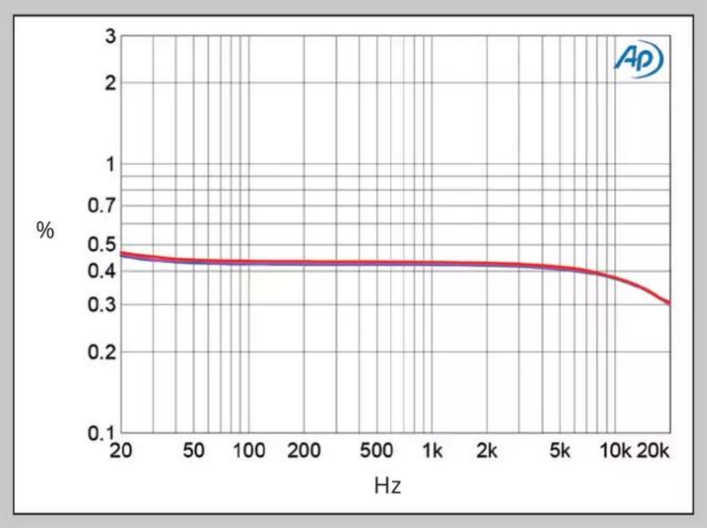
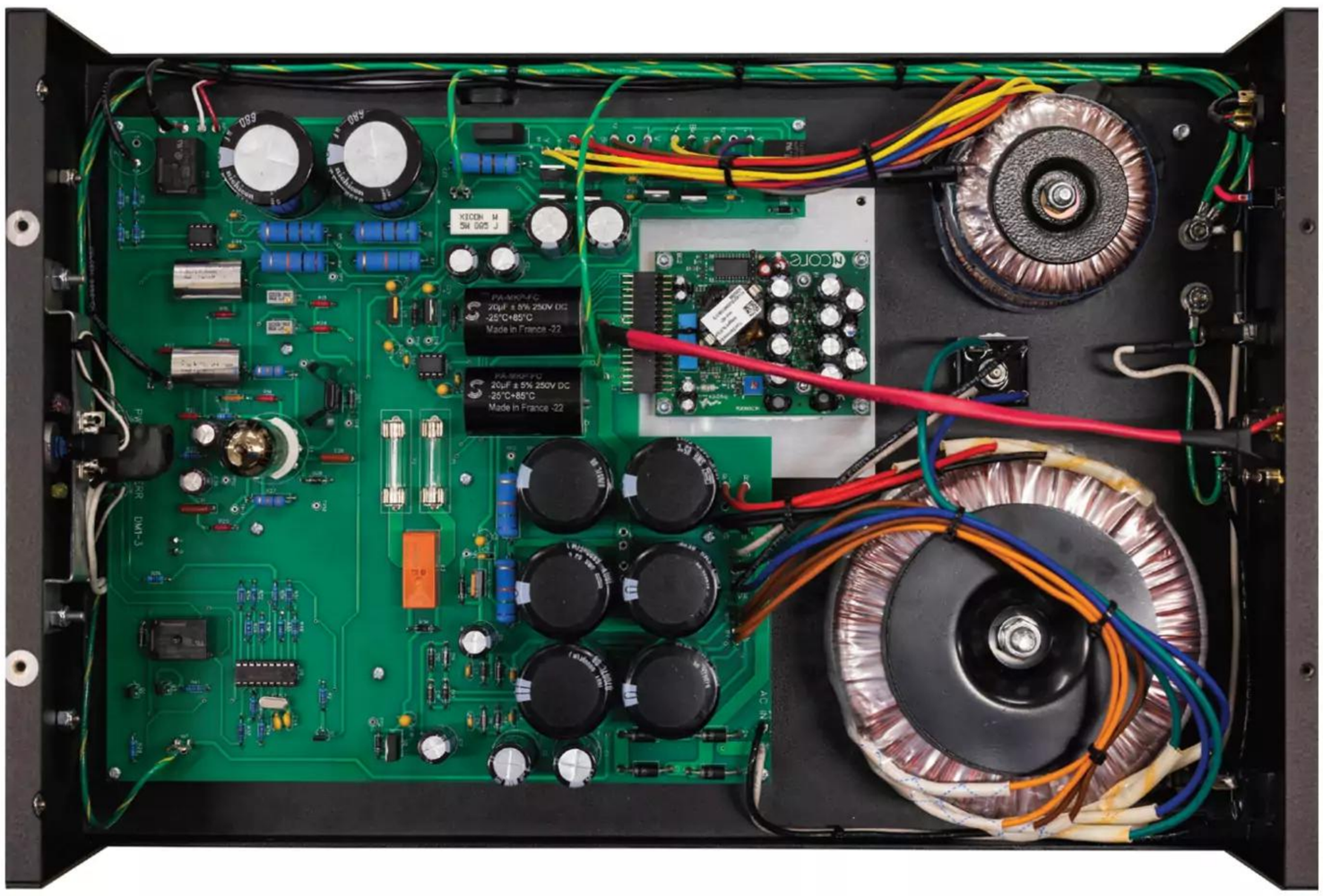


Fig.6 Rogue DragoN, THD+N (%) vs frequency at 12.67V into: 8 ohms (blue), 4 ohms (magenta), and 2 ohms (red).

face. Low frequencies are transmission-line loaded and radiate from bass ports above each laminate-veneered loudspeaker pedestal's cardinal directions.

Each speaker uses a 9" × 12" foam, flat-piston KEF B139 oval "racetrack" low-frequency driver and a rear-ported KEF B110 midfrequency driver, coordinated with an array of three RTR electrostatic panels. These drivers were fairly common in the 1970s, used by various manufacturers including Infinity. According to the specifications, the Transtatic I's lows extend below 15Hz, the highs up to 32kHz, with a ±3dB range of 25Hz–20kHz. Admirably, ESS specified a minimum—not nominal—impedance, of 4 ohms. Sensitivity wasn't specified, but I estimate it as in the vicinity of 90dB/W/m. The user manual suggests a minimum amplifier power of 60W and says it can take "greater than 650-watt musical peaks without distortion."

Uncolored and unboxy, these are the best-sounding loudspeakers I've ever heard at low volume. For this review, I used them exclusively.



Standby

Following the user manual's order of power-on operations, I turned on my sources, my preamp, and then both DragoNs. Following a warm-up period, I heard two loud "pops" from the loudspeakers. It was not subtle. Since there didn't seem to be any other issue while streaming the local classical station during the roof work, I left them alone. After the first night, I powered down like normal. The next morning, I followed the same startup procedure and heard two more pops, one from each speaker. It happened again on the third morning. I did what people do these days: I made a video. I emailed Fitzsimmons, asking about the pops.

measurements, continued

The shape of the traces in figs.4 and 5 indicates that while actual distortion lies below 0.1% below 1W into 8 ohms and 2W into 4 ohms, it rises in a linear manner as the power increases. This suggests that there is only a limited amount of corrective negative feedback. However, when I examined how the THD+N percentage varied with frequency at 12.67V, which is equivalent to 20W into 8 ohms, 40W into 4 ohms, and 80W into 2 ohms, it was high across the band but didn't increase into lower impedances (fig.6). The Hypex NCore class-D output modules have very low distortion,[3] so the distortion shown in this graph must therefore be introduced by the tubed input stage.

Fortunately, the distortion waveform was predominantly the subjectively innocuous second harmonic (fig.7), with higher-order harmonics more than 30dB lower in level (fig.8). This graph was taken into 8 ohms; the spectrum into 4 ohms was identical. When tested with an equal mix of 19 and 20kHz tones at 100W into 4 ohms, the second-order difference product at 1kHz lay at a high –50dB (0.3%, fig.9). The level of this product didn't change significantly into higher impedances or at lower powers, which again suggests that the nonlinearity stems from the tubed input stage.

The Rogue DragoN's measured performance is dominated by the use of a tube in the input stage. This amplifier offers high power but with high levels of second-harmonic distortion.—**John Atkinson**

3 See, for example, figs.19 and 20 at stereophile.com/content/bel-canto-design-black-amplification-system-measurements.

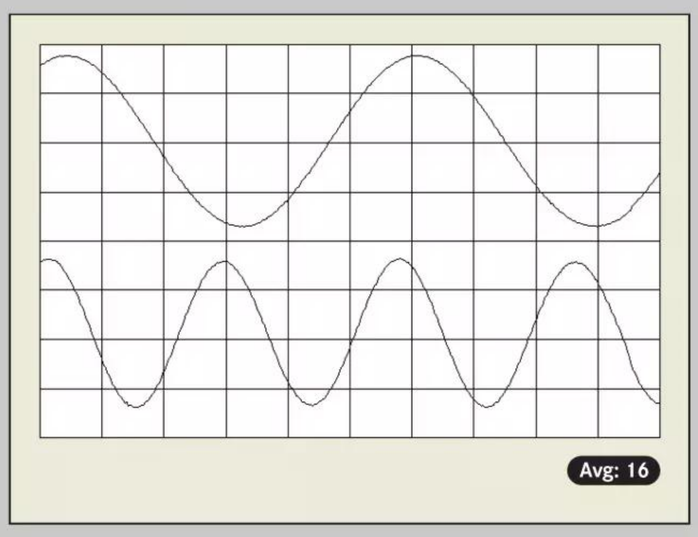


Fig.7 Rogue DragoN, 1kHz waveform at 50W into 8 ohms, 0.66% THD+N (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

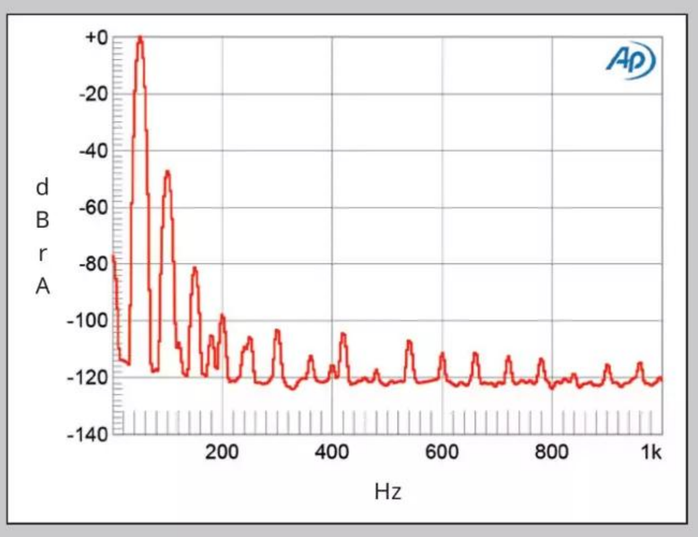


Fig.8 Rogue DragoN, spectrum of 50Hz sinewave, DC–1kHz, at 20W into 8 ohms (linear frequency scale).

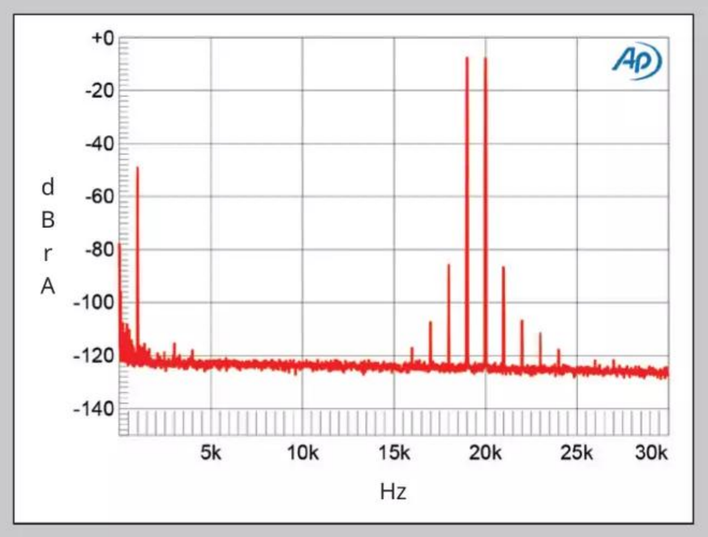


Fig.9 Rogue DragoN, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 100W peak into 4 ohms (linear frequency scale).

"When you press the front power switch on the DragoN monoblocks, that turns on the high voltage to the tubes. During the warm up process, the output of the amplifier is muted with a relay. When the yellow light turns off, the relay has unmuted the audio circuit, so what you are hearing is the switching of a relay inside the amps, which is normal," he assured me. Why this would result in a surge of power to the loudspeaker with no music playing wasn't clear.

The DragoNs were otherwise as silent as when they were not powered on, and since there was no issue with the sound of the music, I simply left them powered on for the remainder of the review period. I recommend you do the same: It may have an effect on tube life, but these are not power tubes, so the lifetime should still be long.

To the credit of class-D and satisfactory heat dissipation, the chassis never got warm to the touch.

May all the blooms unfold before you

Long winter nights put me in the mood for Type O Negative. The sophomoric, pop-goth metallers from Brooklyn disbanded in April 2010 after bassist/lead singer Peter Steele's death. More prankster than poet, the late broodster has since attained a kind of Jim Morrison, cult-like status, in metal circles and beyond.[5] The band's seven albums over 16 years are well-remembered, even beyond the metal scene. The band is best known for the albums *Bloody Kisses* from 1993 and *October Rust* from 1996 (16/44.1 FLAC, Roadrunner Records/Tidal); the former album's radio singles easily cross over into rock.

On "Black No. 1 (Little Miss Scare-All)," from *Bloody Kisses* (16/44.1 FLAC, Roadrunner Records/Tidal), a sanitized, chuggy guitar cut through my space in clear lines, backed by thunderous drums. The synth was airy and light, traversing the space between the centered, buzzy guitars and forceful drum thwacks. Steele's baritone clicks and his tongue spittle's pleading wails faded to a steamy whisper. The presentation was thicker and lusher than I'd previously heard, forcefully forward and evocative.

With *October Rust*, the band matured in sound and demeanor; for me, this album, when it's well-reproduced, is the audio equivalent of being comfortably smothered by a heavy blanket. The DragoNs excelled. "Love You to Death" and "Too Late: Frozen" had an impact in the lower octaves that I'd previously missed. The midbass unfolded in almost a sugar rush.

I continued with *Marrow of the Spirit* by Agalloch (16/44.1 FLAC, Dämmerung Arts/Tidal), a folky black-metal band from the Pacific Northwest. The album opens with the sound of birds and a running stream. A cello enters. The DragoNs helped create an enveloping ambiance that served well the stark transition into track 2, "Into the Painted Grey," with its tribal drums and earworm lead guitar solo that shatters the stream scene's serenity.

That gave way to doomy sludge guitars and Gollum-like vocals, revealing these amplifiers' tube-infused Mordor. With the DragoNs, I was, for the first time, able to discern the lyrics. I'm laughing.

Next, I put on a record: *Pretty Hate Machine*, the 1989 debut of Nine Inch Nails (LP, TVT Records TVT 2610). I heard a wide soundstage with instrument separation I had never heard before on this album. On "Sin," Trent Reznor's vocals were forward and saturated. On "Sanctified," the DragoNs conveyed the cracking, breaking, pleading voice of a young man learning to cope with the emotional pain of his adolescent experience. Vocals carry much of this album's emotion, and the DragoN monoblocks delivered it all: the ferocity and grit, and the wallowing that backs it. Musically, the album's midbass sounded quicker and better defined than with my reference amplifier, with greater impact.

Side A of Alice In Chains's *Unplugged* presents vocalist Layne Staley at his pensive best. His vocal shone despairingly on the opener, "Nutshell"; this was the last time he sang this song with the band. The side A closer, "Sludge Factory," came across so hauntingly heavy, so syrupy-intense, that if it weren't for the video, I'd suspect guitarist Jerry Cantrell of using a brick to bludgeon his guitar. The vocals and instruments were meatier than I'm used to, in a darkly satisfying way.

Portishead's self-titled album, from 1997 (LP, Go! Beat 539-189-1), has a tubey feel, like it ought to be played on a tubed amplifier. But, as I learned from the DragoNs, it apparently benefits from solid state power, to convey its physical intensity and noir'ish passion—that is to say, a hybrid amplifier is ideal. While listening to "Only You," I wrote in my notes, "The atmospheric texture of the horns, in front of the electronic trip-hop beats, signal the opening of the gates of hell. It's *big*. The effect is dark in style and tone." This track subtly conveyed the hybrid amps' combination of new and old tech as a union of power and persuasion.

Highest floor

The very online community of younger hi-fi buffs that I'm a part of has shown me that people like me (even those who don't like the music I like) are graduating in ever-greater numbers from the vintage/secondhand market where we started out. Few brands are as well-positioned as Rogue to meet them halfway or on their own turf. Rogue's tube-based and hybrid products are designed and built in America. They come in attractive, distinctive boxes and deliver the high-end experience for less than the price of a 20-year-old Honda.

Speaking of Hondas: Long ago, when I was an automotive journalist, my small team was told not to not think about a vehicle in terms of whether we liked it or whether one was better or worse than another. The foremost questions we were told to consider were: Does the product achieve its intended purpose?

The Rogue Audio DragoN monoblocks unveiled new takes on my favorite noise. The class-D power and dynamics spoke to the younger me, who craves those overwhelming sensations that result, above all, from loudness, and the today me who appreciates the DragoNs' excellence at bringing less dynamic music to life *at lower volumes*, offering me considerable pleasure within the constraints of everyday real life.

There's much to love here. ■

ASSOCIATED EQUIPMENT

Analog sources Thorens TD 125 MKII turntable; Jelco TS-550S tonearm; Zu/Denon DL-103 and stock Denon DL-103 MC cartridges; Auditorium 23 step-up transformer.
Digital sources Oppo BDP-83 universal player; Denafrips Ares II DAC, iFi Zen Stream.
Preamplifiers Linear Tube Audio microZOTL, Parasound Zphono MM/MC phono preamplifier.
Power amplifiers Linear Tube Audio ZOTL40 Reference+.
Cables Interconnects: Auditorium 23, AudioQuest Black Mamba II, Kimber Kable Hero (XLR). Speaker: AudioQuest Rocket 44. Power: AudioQuest NRG-Z and Y.
Power conditioning AudioQuest Niagara 1200 power conditioner (2), PS Audio PowerPort Classic outlet; PS Audio Noise Harvester.—**Jason Davis**

5 Steele posed nude for *Playgirl*, toured daytime talk shows including Ricki Lake and Howard Stern, and for a while maintained a minor career in Hollywood, as writer, actor, and composer.

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KALMAN RUBINSON

StormAudio ISP Evo

IMMERSIVE SOUND PREAMP/PROCESSOR

One thing that interested me about the StormAudio ISP Evo is that, despite its obvious hi-fi function, it's more like a computer than a typical "prepro." While it does offer a few "legacy" analog inputs, it is for the most part all-digital, input to output, including network connections on both ends. Consequently, it is less likely to leave sonic fingerprints on the music than devices that convert digital to/from analog or modulate their signals with active amplification or attenuation. It is notable that, despite its audio function, the Storm completely lacks traditional audio specifications—distortion, dynamic range, and so on.

Yes, that aspect of the product was appealing, but the real trigger for me was that when I began this review, the StormAudio ISP Evo was the only consumer device to fully incorporate the latest version of Dirac Live Active Room Treatment (ART).[1] An earlier, more primitive version of ART, called DLBC Full Bass Optimisation, was tantalizing[2] but ran only on Windows or Mac computers and seemed never to get out of beta status. My expectation for the ISP Evo is that the installation and calibration procedures of this integrated version, which is now fully commercial and public, will be more coherent and smoother and that the results will be even better than before.

That's quite an attractive package, but it comes at the cost of easy integration. The ISP Evo cannot just be plunked down into any audio or home-theater system because its primary output is via network. Since it is "AoIP (AES67/Ravenna) Dante Compatible," it can communicate directly to network-enabled loudspeakers, DACs,

1 See dirac.com/introducing-dirac-live-active-room-treatment.

2 See stereophile.com/content/dirac-live-3-room-correction-software.

SPECIFICATIONS

Description Network-connected, multichannel home theater preamp/processor. Post-processed outputs: Up to 32 channels, 48kHz. HDMI video inputs/outputs: 6/2. Audio inputs: 1 stereo XLR analog, 4 stereo RCA analog, 3 S/PDIF (RCA), 3 S/PDIF (Optical TosLink). Audio output: one S/PDIF (Optical TosLink) for Zone 2. Network Audio I/O: Ravenna/AES67 via 2 RJ45. 12V trigger I/O: 2/4.1 LAN (RJ45) connector for 100Mbps Ethernet network communications and two USB for USB microphone or for service. Voltage (AC): 100V–240V. **Dimensions** (with rack ears) 18.86" (479mm) W × 5.91" (150mm) H × 16.53" (420mm) D. Weight: 17.6lb (8kg). **Serial number of unit reviewed** ISP/S 230300032. Designed and manufactured in France. **Price** $21,999 as tested, $17,999–$21,999 depending on channel count (20 or 32) and digital format (AES3 or AES67). Warranty: Five years from the date of purchase to the original purchaser, limited to defects in materials and workmanship. **Manufacturer** StormAudio, 8 Rue del la Rabotiere, 44800 Saint-Herblain, France. Tel: +33 2 49 62 30 49. Email: info@stormaudio.com. Web: stormaudio.com.

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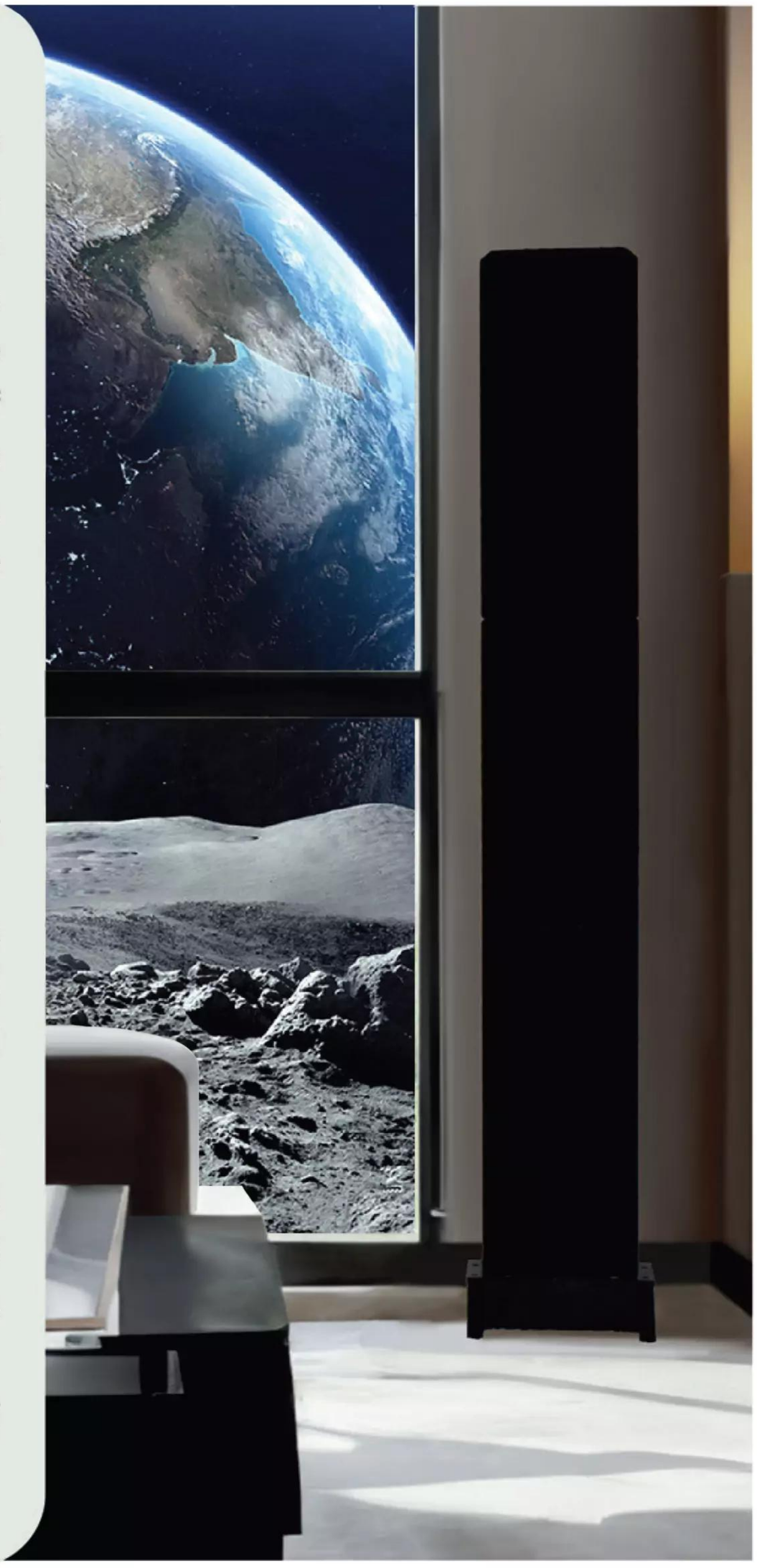
- Narrow band cancellation of driver, fundamental resonance (Fs) which eliminates Fs distortion, and allows low frequency response. (Den Hartog figs. 23,2.22)
- These speakers do not drive room acoustic resonances (!). Uniform, high quality sound throughout. A large concrete room would work nicely.
- Electronic package includes high speed, high accuracy pre-amp and 400 Watt amplifier, and excellent CD/SACD player. Balanced interconnects, housing, one power cord, ready to play ($3.9K). Speakers $1150 each.
- Speaker sleeve can be of most any lightweight, stretchy knit synthetic.



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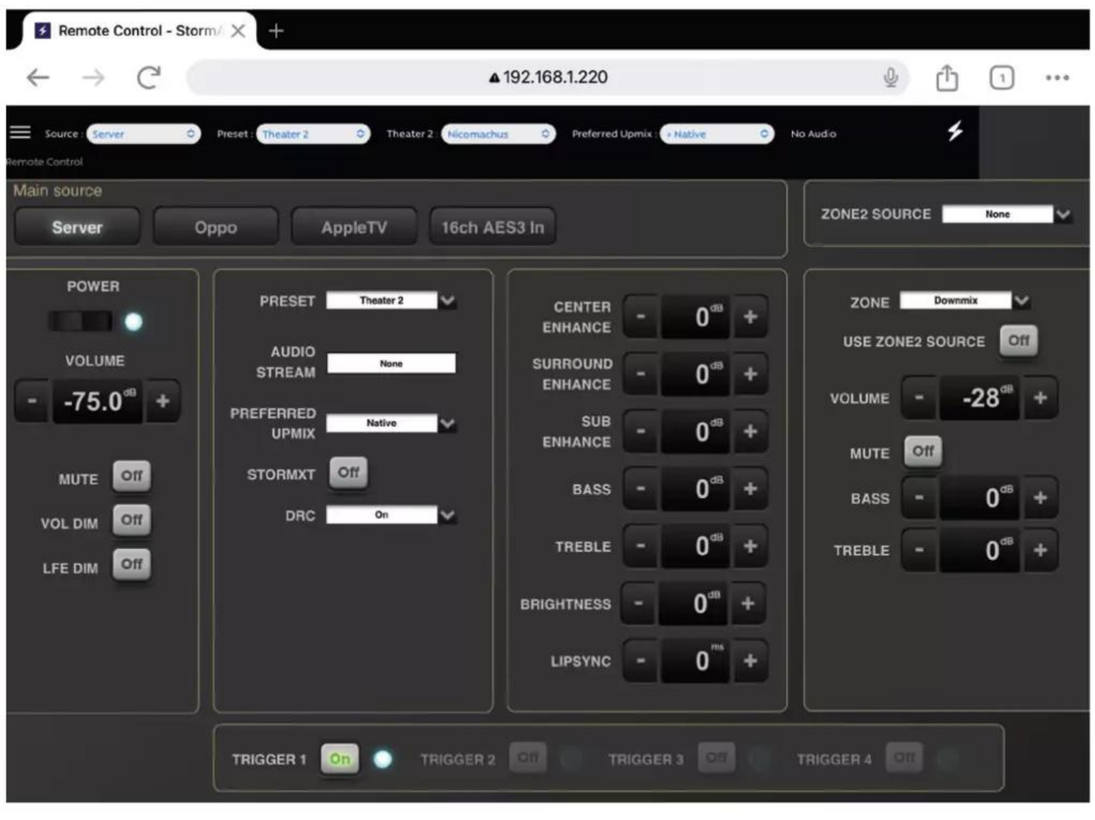
amplifiers, and other devices—but not to those that don't speak one of those network dialects. In my setup, I needed to connect it to my PC Server by running the appropriate drivers in order to play files from my library or to stream music from the internet; Merging's MAD ASIO driver package installed on my PC server enabled bi-directional flow of multichannel audio between it and the ISP Evo. I was then able to send the Evo's output on to the network input of my Hapi II multichannel DAC,[3] which is also Ravenna compliant.

Unpacking and installing the ISP Evo

The review sample of the ISP Evo arrived in a large shipping carton accompanied by an even larger flight case that included all the tools needed for calibration/room correction. Purchasers can have the calibration done by their dealer, although I always urge users to do it for themselves. There are advantages to DIY, even for newbies, as they will gain insight into how their audio system integrates with their room, and they'll know how to recalibrate it in the future when components or room conditions change. This StormAudio calibration kit—the stuff in the flight case—can be purchased for this purpose, but all you really need is a calibrated microphone (such as a UMIK-1), a long-enough USB cable, and a microphone stand with a boom. If you have been in this game for a bit, you likely have these things already. I do, and I used them. After looking at what was inside the kit StormAudio provided—nice stuff!—I returned the kit unused.

The ISP Evo itself is surprisingly hefty considering that it contains no big transformers, heatsinks, and so on, and considering the amount of empty space on the front and rear panels. On the left side of the rear panel is an IEC AC receptacle and a power switch. Adjacent to this are vents for a small ventilation fan, which during my audition was audible only briefly on power-up; if it operated at any other time, I was not aware of it. Below the vents is a stack of a single RJ45 connector (for general LAN access) and two USB-A jacks. Across the top are nine HDMI jacks, seven for input and two for output. Below these and to the right of the vents are two more RJ45 jacks and a large blank area.[4] These two RJ45 jacks—a primary and a secondary—are where the audio-over-IP action takes place, dedicated to Ravenna/AES67, capable of managing audio input and output for up to 32 channels.

Running Ravenna communications can stress, and be stressed by, other functions running on a home network. I had been avoiding that by making a direct physical CAT6 link between my PC server and the Merging Hapi II. However, such a link is no longer physically possible when "baby makes three" and the ISP Evo is added to the system. Running all three devices on my regular LAN



was, as expected, suboptimal, with occasional dropouts, so I added a Cisco CBS350-8 managed switch in accordance with Merging's recommendations and procedures.[5]

The ISP Evo was connected to my regular home network from its single LAN jack—the RJ45 in the stack with the two USB-A connectors—so that I could access/control the unit via its web user interface. The Evo was connected to the separate Ravenna/AES67 subnet from one of its AoIP jacks.

Below these elements are a series of connectors that I spent little time with. From left to right, in/out jacks for IR control; four 12V trigger out jacks; six S/PDIF inputs, three RCA and three TosLink; a stereo pair of balanced XLR analog inputs; four stereo pairs of unbalanced RCA inputs;[6] and finally, a single TosLink output for main zone down-mix for a local or remote audio monitor.

The central graphical display on the front is well-conceived; it clearly indicates what is going on in terms of input choice, source format, overall volume (via a large numeric display), and an active level display of the individual channels. Menu access via the display is accomplished with the Up, Down, and Home buttons to the left of the display and the large multifunction knob to the right. This works, but I found it easier to use the lightweight remote control for playback-related operation rather than to engage in the repetitive push/rotate/push routine to step through the hierarchy. And I much preferred to use the excellent web user interface, which I operated with my iPad, rather than get up from my seat.

Setup

With most traditional audio components, once you've made all the physical connections, you're ready to listen to music. Sure, there may be some settings to optimize, but the system is already functional. But when there are many channels and codecs to choose from and DSP choices to make, it doesn't work that way. The ISP Evo's logical design made the setup procedure quite painless, and I managed to accomplish it without factory assistance (although it was offered).

The task had three parts. First, get the three active components (PC Server, ISP Evo, Hapi II) to work together via Ravenna. Second, configure the ISP Evo to process the multichannel input signals to suit my output (loudspeaker) configuration. Third, run Dirac Live–ART, which was the original object of this undertaking.

PART 1. Adding the ISP Evo to the Ravenna network was easy. I made the physical connection to the network switch that the Hapi

3 See stereophile.com/content/merging-hapi-mkii-multichannel-digital-processor.

4 If you order the AES3 version of the Evo, the 16 channels of AES3 connectors would be installed here.

5 Merging recommends a wide range of specific brands and models and, for many of those brands, offers automated configuration procedures. For example, the automated configuration procedure for the Cisco CBS350-8 is at merging.atlassian.net/wiki/spaces/PUBLICDOC/pages/4819248/Cisco+CBS350-8+Auto-configuration.

6 Storm offers users the option of combining these 8 jacks for use as a 7.1 channel audio input.

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and PC Server were attached to. Within a minute of power-up, the Evo appeared as an available device in Ravenna's Aneman matrix display. I simply clicked on the appropriate intersections to connect 12 channels of audio output from the PC Server to the Evo's inputs and the same 12 channels from the Evo's outputs to the inputs of the Hapi DAC.[7]

Fastidious readers may note that the PC Server now has two possible connections to the Evo: A direct one connecting the server output to the Evo via HDMI, and a bidirectional one via Ravenna and the Cisco switch. I used both at different times, and I preferred HDMI because it allowed me to see the JRiver/Roon user interfaces on the display monitor connected to the ISP Evo.

PART 2. I connected my Apple TV+ 4K, Oppo UDP-103, and PC Server to HDMI inputs of the Evo and its HDMI output to my display monitor. The ISP Evo's web user interface, accessible via computer or tablet, presents three options to the user: Remote Control, StormEasy, and Expert. Just like the physical RC, Remote Control duplicates what can be done from the front-panel controls. StormEasy is described as a "From Scratch" tool capable of creating a full new configuration. However, after I attempted to edit an early, hesitant attempt, I discovered that each new attempt is assumed to be "From Scratch" and some previous settings are deactivated or cleared—often not the ones I intended to correct. So, I presumed myself an Expert and found *that* procedure to be clear, logical, and—most of all—amenable to editing for my modest system, which has only one zone.

Because every setup will be different, I will not plaster these pages with extended descriptions of the procedures. Instead, I will list the major elements I needed to complete:

- Define and name the three HDMI inputs and PC input via Ravenna and assign them to buttons on the remote control.
- Identify, define, and map my 12 speakers.
- Set channel levels and delays with the aid of the Spatial Audio Calibration Toolkit,[8] which provides useful test signals for all the channels in all channel configurations.

PART 3. Finally, I plugged my UMIK-1 microphone into my PC and navigated the Expert setup to initiate Dirac Live. I have been using Dirac Live for more than a decade, on all my PC servers and a series of prepros. Its integration in the ISP Evo is the most seamless I've experienced and, consequently, the easiest to calibrate. In the past, Dirac Live often didn't "see" all the speakers, and sometimes it thought a full-range speaker was a subwoofer or *vice versa*. The Evo never had an issue, despite my nonstandard channel order. I was able to speed smoothly through the Volume Calibration and Measurement stages more than once, choosing the Focused Imaging option, which integrates 13 microphone measuring positions.

Dirac Live group setup

Ch.	Signal	Channel Name	Speaker Group
1	LF	Left Front	1
3	CF	Center Front	2
2	RF	Right Front	3
4	SUB	Main Sub / LFE channel	10
7	SUB	Main Sub / LFE channel 2	11
8	SUB	Main Sub / LFE channel 3	12
5	LS	Left Surround	4
6	RS	Right Surround	5
9	LFT	Left Front Top	6
10	RFT	Right Front Top	7
13	LBT	Left Back Top	8
14	RBT	Right Back Top	9

This is all standard procedure for Dirac Live and has been for a while. What's new is ART—Active Room Treatment.[9] ART is the long-awaited fruition of Dirac Unison, which Dirac tantalized me with way back in 2011. It has been described as a "patented MIMO mixed-phase impulse response correction technology," which implements bass management with co-optimization of the subwoofer(s) using a single all-pass filter for the redirected bass with individual all-pass filters for the full-range channels, individually or in groups. In practice, ART utilizes the low-frequency output of all the speakers and subs (each within its own useful bandwidth) "to control the room by sending out antisignals to cancel low-frequency resonances," taking into consideration the in-room acoustical interaction of all the speakers and subs up to 150Hz.

It does this by allowing each and every speaker to play as far into the bass as it is capable of going. However, each and every speaker is also used, within its range below 150Hz, to implement room correction and bass extension for the other speakers. In the enhanced "Filter Design" phase of DL-ART, the user has the option of assigning which main speakers and/or subs will be used to support which main speakers or subs, because in very large systems, one might want to segregate the speakers into groups by room location. In my relatively small, simple system (for an Atmos setup), I had all of them supporting each other. This resulted in greatly enhanced "fill" among all the speakers in all three dimensions as well as improved definition from the lowest frequencies through the upper bass and accurate bass localization without introducing "bass management" *per se*. Evidence of this in operation can be seen in ISP Evo screen displays, which show all 12 channels active even during stereo-only playback. See display on the previous page.

I was listening all along

This long preamble before saying anything about sound and music is not representative of my real experience. There was music playing through the Evo from the moment I established the first, if faulty and incomplete, connection from source to speaker. Playing through the Evo, my system had its expected tonality and detail even before I optimized the routing (via Aneman) and acoustical balance (via Dirac Live). Playing through the Evo fully configured was consistently even better.

A simple example is playing

7 More details with illustrations of Aneman can be found in my review of the Hapi II in the January 2024 *Stereophile*.

8 See spatialcd.com.

9 See dirac.com/introducing-dirac-live-active-room-treatment. Also see StormAudio's webinar series at stormaudio.com/webinars/ and the helpful YouTube video at youtu.be/dJc3_GqDjA4?si=nNq3DIyw2DBliSD7.

Think Outside the Box

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a wonderful stereo recording from my library, such as the collection of György Ligeti's pieces for groups of winds (24/96 download, Harmonia Mundi HMM905370). I love these, especially the "Six Bagatelles for Wind Quintet," and I was particularly taken with the delineation of the instruments when I reviewed the Estelon AURA.[10] None of that was lost with the KEF Blades and the ISP Evo. DL-ART opened up the soundstage and, with the accompanying Chamber Concerto (François-Xavier Roth conducting Les Siècles), there was more richness in the lower instruments and enhanced awareness of the hall acoustics.

The ISP Evo with ART was even more rewarding with a full symphony. I can recommend a thoroughly entertaining new disc/download of juicy orchestral excerpts from Italian operas, *Verismo - Preludi e Intermezzi*, from Domingo Hindoyan and the Royal Liverpool Philharmonic Orchestra (16/44.1 download, Onyx 4242). This is romantic, heart-on-the-sleeve stuff, and it benefits from Hindoyan's commitment and the big sound of the RLPO in its home hall. Start anywhere, but don't miss the rich brass and soaring strings of the Intermezzo from Act III of Mascagni's *L'amico Fritz* or the sparkling, delightful Overture to *Il segreto di Susanna* by Ermanno Wolf-Ferrari. Perhaps these are not the media or the programs that one immediately associates with an Atmos-enabled prepro like the ISP Evo, but it does a bang-up job with them. Switching off the DL-ART correction filter, everything fades very noticeably, losing clarity and presence. Restoration evoked a sense of "*now* it's right."

Another instance of that same perception happens when listening to streaming from the Berlin Philharmonic's Digital Concert Hall.[11] I am addicted to this service for its live streaming on Saturdays and for mining its archives for "live" performances, recent and past. Many of their recent concerts are offered in Atmos, albeit via the lossy codec option that is standard these days. Even so, switching from HD stereo to Atmos restores the ambience and tonal balance so appreciated by those of us who have heard live concerts in the Philharmonie Berlin. What trade-off there is in going from lossless 48k to a lossy stream is fairly inconsequential while the soundstage opens wider and deeper. Would I like that lost resolution back, sure I would, but I opt for Atmos every time.

Having moved on to multichannel and immersive media, the differences between DL-ART and no DL-ART assumed larger proportions. Back in October 2023, I attended the AES Convention in New York City and greatly enjoyed a joint "Enveloping Masterclass" by Thomas Lund of Genelec and Morten Lindberg of the record label 2L. They discussed "factors of recording, mixing and reproduction that make 'immersive' worth the effort," demonstrating their points with 2L recordings played through a myriad of Genelec speakers in front, in back, and arrayed on an open girder structure that *enveloped* the audience. That audience—mostly studio professionals—was clearly impressed, as was I. I couldn't wait to attempt this at home with the recording that evoked the greatest response: Kim André Arnesen's *Tuvayhun—Beatitudes for a Wounded World* (2L-171-SABD), which is available as an SACD/Blu-ray set and as downloads in every modern format that I can think of.[12]

This is almost 80 minutes of beautiful music, sometimes sad, sometimes joyous, always engaging, and often thrilling. It is comprised of 18 sections variously scored for vocal soloists, chorus, and orchestra. Lindberg has arrayed the performers around the

10 See stereophile.com/content/estelon-aura-loudspeaker.

11 See digitalconcerthall.com/en.

12 MQA stereo, DXD stereo, 24/96 surround 5.1, DXD surround 5.1, 24/96 Auro-3D in 5.1 FLAC, Dolby Atmos in MP4, Dolby Atmos TrueHD and Auro-3D in MKV, DTS-X in 7.1.4 and DTS-HD in MKV, 24/88 discrete WAV 7.1.4 immersive, DXD discrete WAV immersive. Whew.

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conductor, the microphones, and—thus—the listener, and that is what was heard at AES, with clarity and impact.

At home, I decided to take an incremental approach, beginning by streaming *Tuvayhun* from Apple Music—that is, as a lossy Atmos bitstream. It was pretty good. There was a sense of immersion in the wonderful Nidaros Cathedral, with performers all around, with sufficient balance and detail to enjoy the experience. But it lacked the impact of the AES demo. Something was missing.

Could the problem be that my *ad hoc* audio system is just not up to the standard of the all-Genelec array at the show? Or is there more to Atmos than the lossy version from Apple Music? The answer is: both.

Switching over to the downloaded Dolby Atmos TrueHD file—lossless 24/48!—was a revelation. I was still sitting encircled by the performers in that lovely ambient space, but now everything was in sharper focus. The individual instruments and singers were clearer and more corporeal, but the acoustics of the space also seemed much more distinct and real. The result was a more discrete presentation of all elements, such that, instead of being immersed in a cloud of sounds, I was in among the sounds. I think that is what Thomas Lund was getting at when he made a distinction between immersion and envelopment.

Since I had the ISP Evo, which can play anything, I also compared the Atmos options with the 7.1.4 Auro-3D (96kHz) and MCH 5.1 DSD, both from the physical discs. The Auro-3D popped, with great detail and spaciousness, but something seemed amiss with the hall ambience, likely because my speaker positioning was optimized for Atmos and not to Auro's specifications. The 5.1 DSD was transparent and powerful but suffered by direct comparison to TrueHD and Auro-3D. Without the height dimension, a bit of the air was let out.

Only 48kHz. Does it matter?

Clearly stated in the ISP Evo's specifications: "Post-Processed Outputs: Up to 32 channels, 48kHz." So, the sampling-frequency limitation was not a surprise. Still, I must admit that, conceptually, the global limitation to 48kHz is a downer.[13] In practice, however, the sound with the ISP Evo was remarkably clear and undistorted, fully capable of distinguishing between lossy sources and higher-resolution, discrete, lossless sources—eg, as already demonstrated, lossy streamed Atmos vs Atmos TrueHD. The ISP Evo does what it can with lossy codecs, but it's impossible to make up for the lost musical information. With full-resolution material—CD-rez or better—it is outstanding.

Digital resolution is a primary determinant of good sound, but there are limits. Anything over the CD standard of 44.1kHz approaches the point where further increases are indistinguishable—hence, pointless. Exactly where that point comes depends on many things, including the system, the listener, and the source material.

ASSOCIATED EQUIPMENT

Digital sources Oppo Digital UDP-103 universal disc player, Custom Intel/Win11 music server running JRiver Media Center v31 and Roon, exaSound s88 Mark II and Okto DAC8 Pro D/A processors. QNAP TVS-873 NAS.
Preamplifiers Coleman Audio 7.1SW for balanced DAC-to-amp switching.
Power amplifiers Benchmark AHB2, NAD C 298.
Loudspeakers KEF Blade 2 Meta (L/C/R) with IsoAcoustics Gaia II feet, Revel Performa3 f206 (SL/SR). 2 JL Audio e110 and 1 SVS SB-3000 subwoofers.
Cables Digital cables: AudioQuest Coffee (USB). Analog interconnects: Mogami Gold AES TD DB25-XLR snake, Benchmark Studio&Stage XLR-XLR. Speaker cables: Benchmark Studio&Stage, Blue Jeans Canare 4S11.
Accessories Furman Elite-15 DM I, Brick-Wall BrickWall 8RAUD, and CyberPower 850PFCLCD UPS power conditioners, Teddy Pardo 12V PS (for exaSound s88), HDPlex 300W Linear Power Supply and AC filter (for server).
Listening room 24' L × 14' W × 8' H, furnished with custom-built 9" × 12" × 40" and 2" × 12" × 48" absorbent panels in each front corner. Sidewalls lateral to L/R speakers have 2" thick, 2' wide floor-to-ceiling OC 705 panels. Front wall has large windows partly covered by insulated fabric drapes. Rear of room opens into 10' × 7' foyer and a 12' × 8' dining area.—**Kalman Rubinson**

In any case, I do not think very many people would typically trade CD-quality stereo for a higher-rez mono. Similarly, there is little appeal for me in trading down from true 48kHz multichannel/immersive to higher resolution stereo. 48kHz can be sufficient. And, yes, I did the experiment. I bypassed the ISP Evo to confirm.

Finally, there is the matter of Dirac Live–ART, which contributes greatly to the subjective perception of resolution, tonal balance, and spatial resolution. It accomplishes this by reducing the influence of spurious reflections and room modes, smoothing frequency response and applying these operations across all the speakers so that they operate cooperatively. I have always felt that the subjective value of modern speaker/room correction greatly outweighs the reduction in resolution that almost always accompanies it in consumer devices. The ISP Evo is the most explicit demonstration of that fact that I've heard.

Conclusions

I have but scratched the surface of what the Storm ISP Evo can do. I have not assessed its video capabilities or its ability to operate several home theaters at once. Heck, I haven't even played a movie. So far, this has all been about audio, pure and (not so) simple. I'm confident that the ISP Evo, as a purely digital processer, is not imposing significant, audible coloration on the sound, unless you do it intentionally via one or another of the DSP functions.

What's more, the sophisticated yet lucid configuration procedures and the smooth integration of functions and controls are up to the standard that one expects from a high-end product. In particular, the ISP Evo offers the most integrated and effective implementation of Dirac Live I've ever used. Some may balk because of the 48kHz resolution limit, but I question whether any other prepro can match it, with any of the source material available today. ■

13 I've asked StormAudio about this; they replied: "Our chips are capable of 96kHz processing, so a bypass is possible and likely in the future."

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FOLLOW-UP

BY JIM AUSTIN

THIS ISSUE: Jim Austin re-reviews the CH Precision M1.1 amplifier, in stereo.

CH PRECISION M1.1 POWER AMPLIFIER

At *Stereophile*, every reviewer takes a different approach to reviewing, and so they inevitably reach varied conclusions. Our work, though, is partly based on shared principles. As in reviewing wine, for example, our own tastes matter—a lot—but certain universal (though subjective) principles matter, too. This fact becomes especially interesting in follow-up reviews, in which shared principles hold even as personal preferences collide.

As long as it's done by a different reviewer, a follow-up review always adds one new thing: another reviewer's perspective. Usually there are other differences, too: a different reviewing system, for example, and a different room. With complex products—including the CH Precision M1.1 power amplifier,[1] which I'm reviewing here—it may be used in a completely different way. A re-review may result in some new sonic insight—a new perspective on how the product sounds, something the original reviewer overlooked.

Sometimes there's an ulterior motive for doing a follow-up review—something other than a desire to present a different perspective. That is the case here. The CH Precision M1.1 power amplifier was first reviewed in our July 2019 issue.[2] It is now 2024, more than four years later, and the M1.1, despite its merits and despite still being a current product, has fallen off our Recommended Components list.

Assuming the product didn't somehow get worse over the last four years and that the state of the art of audio amplification hasn't lately advanced very fast, the M1.1 belongs on the list. To be confident, though, a *Stereophile* writer must listen to it again. That onerous task fell to me.[3]

Michael Fremer wrote that original review, in the context of a different system, and he used the amplifier differently. His speakers were very similar: He reviewed the M1.1 with the Wilson Alexx. Coincidentally, I am using the Alexx's successor, the Alexx V. Mikey used a dCS digital front-end and a darTZeel preamplifier. I'm using a CH Precision front-end—specifically the C1.2 D/A processor—and two preamplifiers: the L1 (review forthcoming) and my reference Pass Laboratories XP-32.

The rooms and setups were also different. Mikey listened relatively close, almost in the nearfield. My room is large, and I sit some 12' from the speakers. We both used balanced connections and plugged the M1.1—two of them in Mikey's case—directly into the wall.

Like other CH Precision components, the M1.1 is modular. It has five distinct operating modes, described by Mikey in the original review, four of which require two M1.1s. Mikey used two M1.1s in what CH Precision calls "monaural" mode, a configuration that at today's prices would cost $104,000. In that setup, only one output stage per amplifier is used, but that output stage has access to the vast resources of a whole M1.1 power supply, including the full output of the power transformer and 240,000µF of storage capacitance. I, on the other hand, have a single M1.1, and I'm using it in stereo.

In both configurations, the amplifier is said to be capable of 350Wpc into 4 ohms, but in Mikey's setup, the power supply is expected to be much stiffer. Whether that difference is meaningful is a key question, since even half the M1.1's power supply is formidable.

This follow-up review will not resolve that question, nor will it describe the product comprehensively; if you're interested in this amplifier, read the original review. Mikey did a good job communicating the essence and features of the M1.1. Also, I agree largely—though not completely—with his conclusions, which are well summarized in a passage from his review: "The M1.1s dug deeply into the musical action, well-paced and with confident but not excessive grip, and they moved with sufficient speed to deliver rhythm'n'pacing excitement on recordings in all musical genres." Mikey's "confident but not excessive grip" was especially insightful. It is possible for an amplifier to grip a speaker—and the music—*too hard*. Perhaps that's where the M1.1's feedback control comes in.

Yes, I said feedback control. You can set feedback from local-only through 100% global in 10% steps. If you're using two M1.1s to biamp a pair of speakers, you can even set each channel to use different amounts of global feedback—one value for the higher frequencies, a different value for the bass, for example.

Mikey chose 20% global feedback, observ-

1 The M1.1 costs a consequential $54,000, including the two input cards ($2000 each) needed for a stereo configuration. CH Precision Sàrl, ZI Le Trési 6B, 1028 Préverenges, Switzerland. Tel: (41) (0)21-701-9040. Web: ch-precision.com.

2 See stereophile.com/content/ch-precision-m11-power-amplifier.

3 To avoid any misunderstanding: When I write "onerous," I am being facetious. Reviewing a fine audio component is actual work—big amplifiers are heavy—but to be able to listen to such fine components cost-free, and even get paid for it, is a rare privilege.

If you're a manufacturer, and a current product from your company—one you do not plan to revise or discontinue anytime soon—has fallen off our Recommended Components list, and you'd like to have it restored, feel free to get in touch. My email address is on the masthead.

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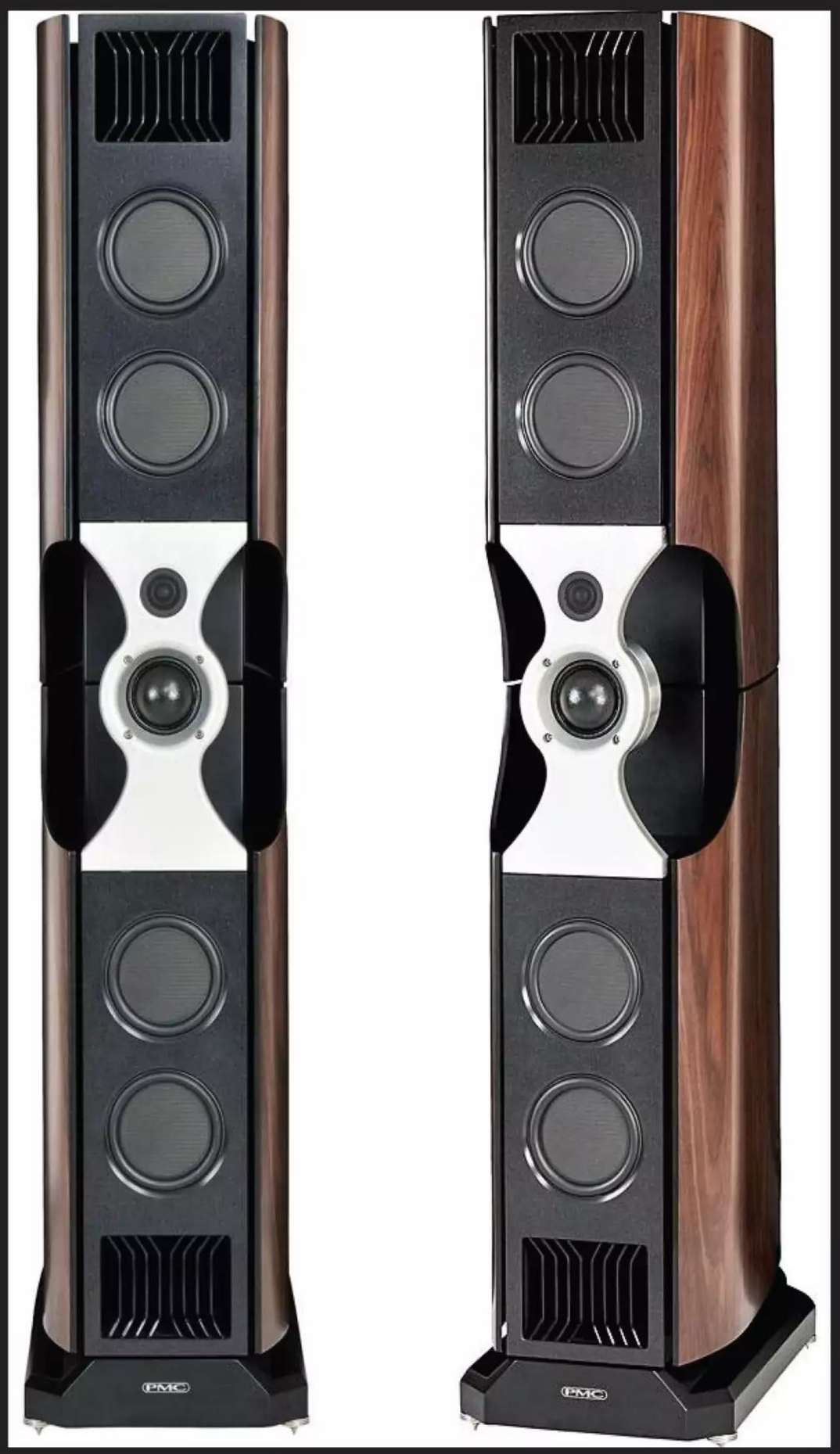

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AVALON	CLARUS	JOSEPH	WEISS
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ing that if he set the feedback any higher, the amplifier sounded constricted, while "less than 20% feedback pushed the sound beyond *liquid*, into a place that bordered on being soggy." This is my main point of disagreement with Mikey's review. That 20% figure was suggested by CH Precision's Ralph Sorrentino. Recently, Kevin Wolff, also from CH Precision, told me that most users set the feedback lower.

Before moving on to listening, I'll mention one issue that, in the context of a profound love for musical experience, may seem rather trivial, but which caused me some frustration. CH Precision components are controllable with an app; an Ethernet port on the back of each component puts it on your local network.[4] The app is intuitive and comprehensive. The problem is that there is no iOS (iPad or iPhone) version; it is only available for Android. I have no objection to Android, but I'm not as familiar with Android as I am with iOS. I also found the app power-hungry: Unless I made a point of closing it after use—it is only needed for setup—the new-looking tablet I was loaned was out of juice the next time I needed it. And the tablet charged very slowly, even with a high-watt charger.

Even for setup, the app is not essential. You can make all adjustments from the front panel. But that's less convenient, and it's fun to make adjustments on the fly, especially feedback adjustments, and that is best done from the listening seat.

Speaking of listening seats

I was excited by the opportunity to play with variable feedback, but in the end I found this anticlimactic, first because changing the feedback setting had less impact on the sound than I expected it to, and second because, for me at least, the useful range was between about zero and 20%—limited, as noted, to 10% steps; beyond that, more feedback didn't seem to change the sound that much, and I didn't care for it anyway. This, surely, is why CH turned to finer steps for its 10-series amplifiers.

I settled at 10%, but I was equally happy with no negative feedback. In contrast to Mikey's experience, I did not find the bass soggy even with feedback set to zero.

Now for some things I *do* agree with, lifted from Mikey's review. The M1.1 has "powerful bass grip and remarkable slam." The M1.1's "impressive weight was accompanied by precise attack, generous but well-controlled sustain, and rapid decay, so the well-textured drum sound surprised me as it should have—like a depth charge—without sounding overripe, losing its grip, or hanging around too long." Ella Fitzgerald's vocals "took on a smoother, creamier tonality than I expected, combined with an enjoyably solid, three-dimensional vocal image." The M1.1 "demonstrated the sort of rich, generous midrange I associate more with tube amps than with solid state ones. Yet that richness didn't obscure the clarity of the bow strikes or the juxtaposition of the cello's solid, three-dimensional image." Brass, meanwhile, "had sufficient metal *bite* to sound convincing." All true.

Some original observations. On "Calling for the Dawn" from *La Muralla (Glass Walls) Suite*, from the wonderful 2022 album *Crisálida* by Danilo Pérez and the Global Messengers (16/44.1 FLAC CD rip, Mack Avenue MAC1178), I heard—I felt—a remarkable sense of openness. Well-separated instruments were laid out in an otherwise empty, blank space. This is a very dynamic, percussion-heavy track, with piano, vocals (including spoken voice), and cello. There's a lot going on, and it is all nicely sorted, nicely spread out spatially, never getting in its own way, making for a relaxing, stress-free listening experience even at high volume. This is music that can sound busy, even grating, if the system playing it back steps on its own feet (to borrow a metaphor from Mikey's review). I heard it live at Birdland just after the album's release, played by this young, tentative, highly talented band, and I love it.

Powerful, muscular, plenty of grunt, clear, open, spacious, relaxed. The soundstage (on recordings containing this information) runs from speaker to speaker, sometimes beyond, with serious depth, to the limits of what my local room acoustics can resolve. On "One Finger Snap," from Herbie Hancock's album *Empyrean Isles* (LP, Blue Note Classic Vinyl Series 4859562), Freddy Hubbard's solo trumpet, positioned just a hair inside the left speaker, pushed farther forward, farther in front of the speaker, than I'm used to, while Tony Williams's kit was positioned to the right, unambiguously several feet back, well behind Hancock's center-stage piano.

If you don't know it already and are looking for a sonic treat, check out Vikingur Ólafsson's album *From Afar* (2LP, DG 00289 486 1997). I listened on vinyl, then streaming. The program is compelling, rich in György Kurtág; what really makes it great is that it's all performed twice, once on a Steinway Model D grand and again on Ólafsson's favorite upright, one that, if memory serves, he grew up with. Both sound superb, but the experiences are totally different—see Jason Victor Serinus's take in his Recording of the Month for November 2022.[5] On the album's first piece, an arrangement by Kurtág of Bach's *Christe, du Lamm Gottes*, BWV 619—and also on Theodor Kirschner's arrangement of Robert Schumann's *Study in Canonic Form*, Op.56 No.1 (and, really, on *all* the upright recordings)—the profoundly *different* timbres of the upright's different octaves, even between the lower and upper midrange, give the music remarkable, organlike color. And in the *Allegro Moderato* movement of Kurtág's arrangement of Bach's Trio Sonata No.1 in E-flat major, BWV 525, the higher notes float in space between the speakers, in front of and behind them, like little sprites, in a way that could only cause delight. In this system, powered by the M1.1, every nuance was revealed.

Highly recommended if you've got the cash. I wish I did. ■

4 With components at this level, you probably should maintain separate networks for music streaming and control.

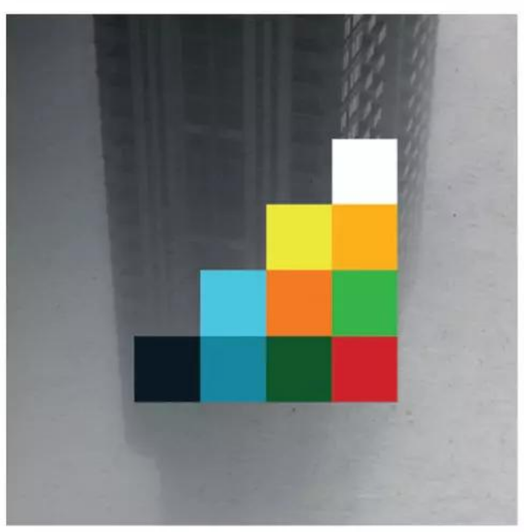
5 See stereophile.com/content/recording-november-2022-afar.

STEVEN WILSON

A MASTER OF IMMERSIVE MUSIC TALKS ABOUT HIS MUSIC AND THE CRAFT.

BY MIKE METTLER

TEVEN WILSON LOVES CHANGING THE MINDS OF SPATIAL AUDIO SKEPTICS. HE'S THE GO-TO DOLBY ATMOS AND 5.1 MIXMASTER FOR MANY HERITAGE ARTISTS, NEW-WAVE BANDS, AND ALTERNATIVE ACTS. BEST KNOWN FOR LEADING THE POST-PROG COLLECTIVE PORCUPINE TREE, RELEASING A SCORE OF GENRE-STRETCHING SOLO ALBUMS, AND SERVING AS A KEY CREATIVE CONTRIBUTOR TO SUCH EXPERIMENTAL GROUPS AS NO-MAN AND BLACKFIELD, WILSON'S APPROACH IS SIMPLE: BRING THEM INTO HIS STUDIO AND LET THE MUSIC DO THE TALKING.



"My biggest thrill is sitting the artist down in the magic chair that's in the sweet spot, and then I play them their own music that's now suddenly opened out into spatial, three-dimensional audio—and I just watch their jaws hit the floor. It's the *best*! It's the best feeling in the world," Wilson acknowledges. "And I've had it happen many times. I've had it with Andy Partridge, Robert, Martin, Roland, and more recently Mat, from Suede." That's King Crimson's Robert Fripp, ABC's Martin Fry, Tears for Fears's Roland Orzabal, and Suede's Mat Osman. Partridge, of course, is from XTC.

Besides handling a litany of other artists' immersive-audio catalog upgrades, Wilson also concocts far-reaching Atmos mixes for his own original material. He recently completed one for his seventh studio solo album, *The Harmony Codex* (Virgin Music Group), released in September 2023. The Atmos mixing was done on the 7.1.4 system in Wilson's home studio, located just outside London. There, he uses a Logic Pro DAW with Logic native and Universal Audio plug-ins, Dolby Atmos Music Panner bridging, the Dolby

PHOTO BY ADAM TAYLOR

Atmos Renderer, and two Universal Audio Apollo interfaces, monitoring his mixes-in-progress on Genelec 8020 speakers.

Some of *The Harmony Codex*'s most striking Atmos moments occur in Wilson's duet with Israeli vocalist Ninet Tayeb on the despair-driven song "Rock Bottom." It's a downward-spiraling sequel of sorts to "Pariah," the pair's stirring, uplifting collaboration on Wilson's 2017 solo album, *To the Bone*. Steven is happy to accept comparisons to Peter Gabriel and Kate Bush's impassioned "Don't Give Up," from Gabriel's multiplatinum 1986 LP, *So*—but only up to a point.

"Listen, I think any time a man and a woman duet on a piece of conceptual, grandstanding rock music, the obvious reference point is always 'Don't Give Up,' isn't it? That's the archetype," he allows. "And 'Pariah' was closer to 'Don't Give Up' in the sense it was the guy saying, 'I want to give up,' and the girl saying, 'You'll live again.' But 'Rock Bottom' has a slightly different vibe. I always envisioned that song as a Bond theme, like a big John Barry[1] epic—an orchestral, dramatic big ballad with Shirley Bassey singing it. That was how I imagined the song from the very first moment Ninet played me the rough guitar demo." Paging Michael G. Wilson (no relation) and Barbara Broccoli—Steven Wilson would *love* to score a James Bond film someday. "It's No. 1 on my bucket list," he admits. "But I'm still waiting. ... Still waiting." The following interview has been edited for clarity.

Mike Mettler: What were your goals for the Atmos mix of *The Harmony Codex*?

Steven Wilson: Well, I'd been doing Atmos mixes for about three years by the time I started on this album. Put simply, I wanted to take everything I had learned—all that experience I'd had doing mixes for other people and for some of my own projects—and just tried to raise the bar on what you can do with Atmos. This album was conceived as a piece of cinema for the ears, with all that entails: the sense of flow, the sense of layers, and the sense of storytelling.

All of that is inherent in *The Harmony Codex*. Everything about it said to me, "This is an opportunity for you to *really* show everything you can do without falling into gimmickry." And gimmickry in Atmos, as you know, is always a little bit of a pitfall. Instead, I wanted to try and create something that people might say, "You know what? When I want to show off my Atmos system to my buddies when they come 'round, I'm going to put on *The Harmony Codex*." [*laughs*.]

MM: When somebody goes into the Apple Music universe and pulls up the Atmos mix of *The Harmony Codex* to listen to on their AirPods, do you feel like they're getting the full breadth of what you've done with it in Atmos, or did you have to compromise anything for that potentially lossy playback?

SW: By definition, they're not getting the full breadth of what I've done, no. However, one thing I would say about the fact that Apple and Amazon have adopted Atmos is why it's going to stick around. This is why Atmos is not going to go the same way as 5.1, quad, and all those other attempts to create immersive spatial audio that were doomed to failure because it's hard to persuade people to put X number of speakers in their front room. We've got this binaural algorithm, which is why Atmos is going to prevail, and that's an amazing thing.

Obviously, given the choice, I would rather people hear a fully discrete, full-resolution version of *The Harmony Codex*. But you know what? It still sounds pretty good on AirPods, and I've worked very hard to make sure of that. All the way along, when I was doing the discrete mix, I'd put it on my iPhone and get on the treadmill with a pair of AirPods Max's, where I was listening to the mixes, making notes, going back and tweaking, because I knew [a large number] of the people that listen to this Atmos mix would be hearing it through either the Apple or the Dolby binaural algorithm. I completely embrace that, although I obviously can't compare it to the full listening experience. I'm very happy this option is available, because it's what's going to give Atmos longevity at the end of the day.

MM: Are physical formats disappearing for recorded media? You've embraced just about every single potential physical format with how you've put out *The Harmony Codex*,[2] though I'm still waiting for the reel-to-reel version.

SW: I'd *love* to do that! *[chuckles.]* I have a buddy who's an experimental sound designer, and he did a wax cylinder edition of exactly three copies! Isn't that crazy? *[laughs.]* I don't know how he found a way to do it, but he did. Apparently, there's someone that still makes them.

Anyway, we digress. The answer to your question is, I don't think physical formats are ever going to go *completely* away. In the same way vinyl was predicted to go away, and in the same way that cinemas were predicted to go away, there will always be a swing back of the pendulum in the other direction. Not to the same magnitude, but there will always be a little bit of pushing back against that. People love physical products—not everyone—but it's fair to say a certain number of people will pay a little for convenience over the quality of experience. But there will always be a little niche, a little swing back in the other direction. And we're seeing that with Blu-ray Atmos discs. More of them are coming out now than there were a year ago, two years ago, three years ago. More people are getting into it. It's always going to be a niche, but it will always be there.

Vinyl's not going anywhere—*anywhere*—ever again. I think it's clear to see that. And the same is probably true of high-resolution audio on Blu-ray and whatever the next format will be. There will always be a place for physical formats with audiophile-quality audio.

MM: You also still like the CD. Tell me why.

SW: I *do* like CD, but CD is a much-maligned format. Some people refer to CD as a lo-rez format—which is funny, actually, because it sounds amazing to me now. Okay, it's 44.1kHz, 16-bit. And now we've got 24/96 and 24/192, and of course that's on another level. Honestly, I struggled—maybe I shouldn't be saying this—I struggled to hear the difference.

MM: I think you can tell the difference between 16-bit and 24-bit, but maybe not as much between 96kHz and 192kHz.

SW: My philosophy has always been, if you can record at 96, then why wouldn't you? And that's what I do. But honestly, I can barely hear the difference between a CD and my 24/96. Maybe my ears are going a bit in my old age, but anyway, I still love CD. For some music—bearing in mind that Blu-ray is still very much a niche thing—if I'm given the choice between CD and vinyl, I'll

1 John Barry [Prendergast] composed the *James Bond Theme* and scores to 11 James Bond films. He also wrote the score to *The Cotton Club* and several other films.

2 *The Harmony Codex* is available on vinyl, CD, Blu-ray, digital, and cassette.

go for CD. When it comes to ambient music or classical music, I don't want to hear that on a vinyl with crackles and pops and surface noise; I'll buy a CD. For ambient music, you want a zero noisefloor as far as I'm concerned. For a lot of music, I still favor the CD—or a Blu-ray if a Blu-ray is available, but very often, it isn't. Regardless, the foretelling of the death of CD has been very premature for many years.

MM: I've seen some recent stories where Gen Z is getting into CDs. They're buying Nirvana CDs, since it's become a thing for them to experience music through that format.

SW: It's because they're cheap as chips! You can go buy a copy of Nirvana's *Nevermind*—or any of those records that sold millions in their day—in any charity shop for like $1, so why would you *not* do that and pay $30 for a 180gm vinyl that might be badly mastered or might have crackles? I still think there's a place for CD, particularly if you're on a budget.

MM: That said, you do still like vinyl, don't you?

SW: I do love vinyl too, yes. I love the tactile thing of vinyl.

MM: You also have a massive wall-to-wall collection of vinyl shelved there behind you, and I swear I'm not jealous of it in the least.

SW: When we moved into this new house, that was one of my promises to myself—to have proper shelves built for the vinyl collection. I've also built in some room for expansion, though I like to think that as I get older, I will start to shed things I don't listen to and replace them with things I *will* listen to. That's the way I've always been—otherwise, I'd have twice as many albums as I do now. Curating the collection is definitely a fun process, though.

MM: What's the best kind of music to play on vinyl?

SW: There's something about jazz that's just perfect for vinyl. Sixties, '70s jazz—it just seems like it should be listened to on vinyl.

MM: Right—you've got to play Thelonious Monk on vinyl.

SW: Yeah, exactly. Or Miles, or Coltrane, or anything like that. I've got a lot of obscure free jazz on vinyl, like Anthony Braxton and Derek Bailey. I feel like that music just belongs on vinyl. There's something so organic and so spiritual about it in the first place, and vinyl is the right format for it.

MM: Getting back to the 360-degree angle, what are the best Atmos demo tracks on *The Harmony Codex*?

SW: Oh, there's a couple. I would probably immediately go for "Beautiful Scarecrow," because it's a little mini piece of cinema in five minutes in its own right, and it's got so many different sections, too. It's got that big drum section in the middle where there are three things going all around in it. And then maybe the title track, because it's so simple and so sparse, yet it just immerses you in this glorious wash of sounds. I mean, there are no guitars, no drums, and no vocals. It's essentially a bunch of analog synthesizers all hooked up together, and the piece is, essentially, performed in real time. And—if I do say so myself *[chuckles]*—it was quite brave of me to put it on the album as it is. I'm not sure if I would have put something like that on any of my previous solo records. But this time around, with the whole cinematic quality of the music and the record itself, it just felt like a worthy addition.

MM: Is *The Harmony Codex* "the most Steven Wilson" of Steven Wilson albums we've gotten to date? Is this one really the most "you" of you?

SW: I think in one respect it is, yes—and that is, it's an album which represents every aspect of my musical personality in some way. If you go back to albums like The *Future Bites*,[3] *The Raven That Refused to Sing*,[4] or *Insurgentes*,[5] as much as I love those records and am proud of those records, they each had an agenda. The agenda was to focus on a particular aspect of what I do, whether it was post-punk, old-school prog rock, or electronic pop. This record has all those things—oh, and some new things, too! *[chuckles.]* In that respect, it's the most diverse record, which sums up everything I've been about, and maybe some stuff you haven't heard me do before.

MM: Didn't you design an entirely new space for doing Atmos mixes in your home studio? You essentially converted a garage to do that, and it's also the same place you've done other Atmos mixes prior to this album. Do I have that right?

SW: That's correct. Just before COVID, I got married,[6] and myself, my wife, and my stepchildren all moved into this house where I converted the double garage into an Atmos room/studio. For the first time, I actually designed a space I knew was going to be my studio and thank goodness it was finished just before COVID kicked in, because I don't know what I would have done for the two years that came after that! *[laughs.]* I essentially disappeared into that room for the next two years, mixing stuff, recording, and writing. *The Harmony Codex* was one of the things—perhaps the most significant thing of all—that came out of that period of enforced isolation. Not everything I do is about Atmos—a lot of it's just about mixing.

MM: Was there something in that new studio space that felt different to you creatively, as opposed to how you felt when you were working in your earlier home studio?

SW: Well, I think the main thing was it was a space I specifically designed this time. I went out and bought myself a bunch of new gear for it as well. What I have in the studio that I hadn't really had before are all those analog synths to experiment with, and I finally had the space to surround myself with them.[7]

The rooms I've had in the past have been very small rooms—very small. I'd been very limited in terms of what I could have around me. Finally, I had the space where I could have my little upright piano in the same room where I was recording. Before, it was always in a different part of the house. But now, I could literally reach over and work on the album and all those analog synths I picked up. A lot of the album came from just turning knobs and patching things, and I would occasionally get something that would become a springboard for a piece of music. That was the main thing I think was inspiring.

Also, the space is properly acoustically treated, and I've got the Atmos speakers in the ceiling. It's totally Atmos-ready, so all of that's going through my head when I'm creating the music.

MM: What's your show-off Atmos or surround mix for any other artist you've worked with?

SW: I've been doing some [Atmos/surround] seminars, and the first thing I asked myself was, "What do I want to play at these seminars that's going to give people a good idea of the mixing challenges I face?" The track I played to illustrate those challenges was [the Who's] "Baba O'Riley."[8] I'd explain to people, "This is what was on the tape, and this is what I had to work with. And this is how I made an Atmos mix out of it." But I would always start the seminar with

PHOTO BY HAJO MUELLER

Down from the Porcupine Tree: Richard Barbieri, Steven Wilson, Gavin Harrison.

Gentle Giant's "On Reflection" [from 1978's *Free Hand*], because of those four interlocking vocal parts. If you want to show off what spatial audio lends itself well to, then you pick something like that track, where there's a lot of what I would call vertical complexity going on. There are multiple parts going on at the same time. Gentle Giant were kings—kings!—of that. After playing just the first two minutes of "On Reflection," I would say, "This is an example of using surround sound to basically illustrate how to spread out a lot of detail in a track that perhaps you could argue was too big for stereo to contain."

And then I would go on and I would usually play "Rivers of Mercy" from the new Tears for Fears record [2022's *The Tipping Point*]. The reason I chose that one to play next was, I would usually say something like, "The Gentle Giant track is what you might call very gimmicky and very showoff, but here's an example of something that just sounds immersive. There's nothing gimmicky about it, and you are inside the song. You are inside it."

MM: Yeah, I would say you're literally inside Roland [Orzabal]'s heart, in that case.

SW: You're just completely bathed in this emotion, in this lushness. "Rivers of Mercy" is a great one to illustrate what is good about spatial audio that's used to create a more three-dimensional space for a track.

And then I would play something that hasn't come out yet—"Just What I Needed," from the first Cars album—and then I would play XTC's "Wake Up" [from 1984's *The Big Express*]. "Wake Up" is the first track on the album, and in stereo, it has this bouncing guitar in the left and right that goes *[mouths the riffs]*. In surround, that riff literally ping-pongs around the room. It's a use of surround in a more gimmicky way, but if the original stereo is a bit gimmicky, then it doesn't feel like an imposition.

MM: From your own CV, what else would you like to remix in Atmos? You once told me you have access to all the multitracks for the 2007 Porcupine Tree album *Fear of a Blank Planet*, so I'd humbly suggest that one as an option.

SW: Do you know what, Mike? I've got a long list of things to do from my back catalog. I mean, I would love to do *Hand. Cannot. Erase.*[9] I'd love to do *To the Bone.*[10] I'd love to do *Raven*. Those three are all solo records, but I'd also love to do *Blank Planet*, yeah.

In my studio, I have this whiteboard, and I write down all the things I need to get to doing in Atmos. They're all on there. The problem at the moment is stuff is coming in faster than I can get through it all, which is a great problem to have.

MM: What do you want the ultimate takeaway to be after people listen to your life's work?

SW: I want people to listen to my music and say, "This is the guy that kept conceptual rock, the idea of the album as a musical journey, and the idea of the album as a piece of cinema for the years alive. This is the guy that kept it alive—and not only did he keep it alive, but he took it forward." ■

3 Released in 2021, on Caroline International/Arts & Crafts.

4 Released in 2013, on Kscope.

5 Released in 2008, on Kscope. *Insurgentes* was Wilson's first solo album.

6 Wilson's spouse is Rotem Wilson, a marketing professional who contributed background vocals on *The Future Bites* and vocals on *The Harmony Codex*.

7 According to *The Harmony Codex* credits, Wilson used the following synths on the album: ARP 2600, Cobalt 8, Moog Arpeggiator, Moog Sub 37, Prophet '08, and Solina String Ensemble.

8 Wilson did the Atmos mix that appears on the Blu-ray that's included in the *Who's Who's Next Life House Super Deluxe Edition* 10 CD/1 BD box set that was released on Polydor/UMR in September 2023. "Baba O'Riley" is the core album's lead track.

9 Released in 2015, on Kscope.

10 Released in 2017, on Caroline International.

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AURAL ROBERT

BY ROBERT BAIRD

THIS ISSUE: A burst of creativity from the latest great young pianist from New Orleans.

Sullivan Fortner

There's a fear out there, even among jazz cognoscenti, that the music's best years and true geniuses are all part of the past. Even in New York City, the richest magnet for live jazz on earth, it sometimes seems that experiencing generational talent, the kind that once drove the music forward, is now confined to gazing at the famous photos on the walls of the music's most revered shrine, the Village Vanguard.

Yet, seeing pianist Sullivan Fortner at the Vanguard, as part of Cécile McLorin Salvant's band, convinced me that there's still jazz magic in the world. By turns playful, blindingly brilliant, and at times puppy dog goofy, Fortner was spectacular. He is clearly a star in the music's future.

Spending time in the storied Studio C at Sear Sound, with its Sear-Avalon Custom Console, to watch Fortner record a forthcoming album convinced me again that his playing ranks with that of the jazz immortals. In person, at this Hell's Kitchen studio, he's surprisingly humble. Easygoing and quick to laugh (often at himself), his affable exterior masks a formidable intelligence and an eager passion for and knowledge of music. After he inserts a rascally passage in an organ solo he's recording, his working trio of Tyrone Allen (bass) and Kayvon Gordon (drums), as well as session engineer Jack DeBoe, crack up the control room. With a wide grin, Fortner emerges from the studio dressed in Yeezy Croc slides, a wool cap, and comfy lounge pants. Motioning me toward a side room, we sit down for a brief chat.

Fortner's latest album, the two-disc *Solo Game*, released on France's Artwork Records label in November 2023, features solo interpretations of tunes by Kurt Weill, Duke Ellington, and Frederic Chopin ("Minute Waltz"), among others. A duo record, with bassist Rufus Reid as leader, was released February 2 on Sunnyside. The as-yet-unnamed projects he is currently recording will become two albums, both to be released on Artwork Records sometime in 2024.

The first of the two forthcoming albums was recorded with drummer Marcus Gilmore and bassist Peter Washington in July 2023 at Sear Sound. That recording comprises standards and covers plus a single Fortner original. It includes a Bill Lee tune, "Again Never," which was featured in the film *Mo' Better Blues*; a Consuela Lee composition; and a take on Allen Toussaint's "Southern Nights." The second forthcoming album, the one where the solo organ piece he's thinking of naming "Hymn for Linda" will appear, contains mostly originals, some based on tunes written by other composers.

PHOTO BY SABRINA SANTIAGO

One biographical detail that may surprise some Fortner fans who associate him with his current home in New York City is that he hails from New Orleans. What proud piano traditions of that musical city are audible in his playing today?

"New Orleans piano players, when I think about it, are very blues-drenched. And very two-handed. Very, very strong and powerful left hand. And definitely very groove-oriented. New Orleans is also very eclectic. It's not just jazz and blues. There's also a classical tradition. There's a gospel tradition. There's an R&B funk tradition, so all of those things are influencing and informing everything I play. I also play some of the repertoire. Sometimes I play James Booker, sometimes I play [Professor] Longhair. I kind of jump in on occasion."

His highest-profile gig in recent years has been his creative and personal partnership with singer/composer Cécile McLorin Salvant, whose awesome creative firepower is equal to his own. Fortner, who says he's been accompanying singers since he was "a little boy playing in church," has also played with Stephanie Jordan, Dianne Reeves, Lizz Wright, and others.

"If Cécile brings anything out of me, it's a sensitivity to a lyric. Sensitivity to a story. And really trying to provide a landscape," he says. "Cécile, above being a great singer, is a great storyteller. It's one of the things that allows her to stand apart from all her peers, in my opinion. My job in her situation is to not be in the way. And she tells such great stories, you don't want to be in her way. You just kind of want to be part of it, too."

Watching the interplay between Fortner and his working trio in the control room and on the studio floor, it's also clear that he's committed to being a generous leader when his name is heading a recording date. "Every leader I've had the privilege to play with, Cécile, Peter Bernstein, Etienne Charles, John Scofield, have all been very open, very giving. I played in Roy Hargrove's band for seven years, and everybody played a lot more than he did; he shared the light with everyone.

"All the greatest leaders were the ones you didn't notice, but they were leading. They didn't say anything, there weren't words, they didn't lead by telling somebody what to play, they led by example. They were all like 'You do you, but if you listen and you watch me, you'll understand exactly what you need to do.'"

Fortner's remarkable talents allow him to cross genres, frustrate easy labels, and make music that is often unique. Though he works in the jazz world, the vision for his playing is larger than any single word.

"I don't think the term 'jazz' really works anymore," he says, referring to all that music, not just his own. "The lines have been so blurred. And the influences are so vast. I enjoy playing the music that is known as jazz. I studied it in school. But Celine Dion, Whitney Houston, Aretha Franklin, Anita Baker, and Stevie Wonder are just as, if not more, influential than Charlie Parker, because they're part of my upbringing. For me, music is music. I don't look at it as categories. I just say, okay, this is a tune, and this is how I play it." ■

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RABBIT HOLES

BY THOMAS CONRAD

THIS ISSUE: A seven-CD box set documents an L.A. engagement late in Art Pepper's short, difficult life.

Art Pepper Lives! Or, Long Live the CD!

That title must have gotten your attention. Not the part about Art Pepper but the part about the CD. Nobody has anything good to say about the compact disc anymore.[1] CD sales suck. Streaming and downloads rule the world. Vinyl (an album format that warps, scratches, and has to be flipped every 22 minutes) now outsells CDs.

But the CD still deserves a place in your heart. One reason: box sets. Many of them are worthy of coveting. For example, there is an amazing new project on the Omnivore label, Art Pepper's *The Complete Maiden Voyage Recordings*. It contains eight hours and 20 minutes of music on seven CDs. Collections that large do not lend themselves to LPs.

Art Pepper was one of the most notorious junkies in the history of jazz. When he was young, he was an alto saxophone virtuoso. In 1951, he finished 16 votes behind Charlie Parker in the *Downbeat* Readers Poll. In his early 30s, he made classic albums like *Art Pepper Meets the Rhythm Section* (1957) and *Art Pepper + Eleven* (1959). But by 1960, heroin had laid him waste. He was incarcerated for much of the next 15 years. He even made the prison big time: San Quentin.

Two events kept him from falling off the face of the earth. First, he entered Synanon, a drug rehabilitation program in Santa Monica, California. Second, he met Laurie Miller.

Synanon did not turn Pepper into a boy scout. But it altered his substance abuse patterns enough that he was able to function. Methadone maintenance, alcohol, and cocaine remained facts of his life. After they were married in 1974, Laurie Pepper managed Art's life and his career. She even co-wrote his critically praised autobiography, *Straight Life*, published in 1979. Since his death, she has managed his legacy. Laurie co-produced this new set (with Cheryl Pawelski of Omnivore) and provided fascinating liner notes that could only come from someone who had been by Pepper's side, every day, for his final, wild ride.

The Complete Maiden Voyage Recordings comes from three nights (August 13–15, 1981) at a large Los Angeles club. The place has faded into history, but it was an important stop on the West Coast jazz circuit between 1979 and 1983. The package for this set contains many vivid photographs (including gig shots) and memorabilia such as reproductions of the backs of the original tape boxes. It also contains an illuminating historical document: pages from a notebook in which Pepper logged his impressions when he first listened to the tapes of these three nights. (He could be a harsh critic. After hearing a somewhat ragged but scorching take of Charlie Parker's "Donna Lee," he wrote, "This isn't to be used until long after my death.")

By 1981, Pepper was no longer a virtuoso. His playing was sometimes rough around the edges. But his spontaneous melodic creativity was still stunning. He was still a unique improviser. He made you think and feel along with him. Case in point: "Everything Happens to Me," the classic ballad by Thomas Adair and Matt Dennis. It was one of Pepper's signature songs, partly because its title encapsulates his life but mostly because its structure set him up for wave after wave of lyric revelation. He played it all three nights. On the last night, in an epic 12-minute version, you can sense him hesitating over the story, marking time until inspiration arrives. It almost always does, and then beauty erupts from his saxophone, as if beyond his will. Other ballads—"But Beautiful" (played twice) and "What's New?" (played only once but played for keeps)—freeze you in your chair. Pepper could always play fast. The three versions of "Donna Lee" fly by in a blur. And he was a profound blues interpreter. The very last song he played at the Maiden Voyage was "Arthur's Blues," so low-down and dirty it made some people in the crowd cry out for mercy. (Pepper's notebook entry says, "My whole life went into this.")

The quartet at the Maiden Voyage had George Cables on piano, David Williams on bass, and Carl Burnett on drums. It was a working, touring band, and tight. Cables's lush solos on the ballads are consistently wonderful.

With 40-year-old live recordings collected into box sets, sound can be a problem. For example, Laurie Pepper, in her *Unreleased Art* series on her own Widow's Taste label, sometimes used soundboard tapes and surreptitious audience recordings. But the Maiden Voyage material was recorded professionally by engineers Baker Bigsby and Wally Buck. The sound is balanced, clear, and alive. The only challenge is that Pepper's affable, spacey stage banter is almost inaudible.

Four and a half hours of the Maiden Voyage material was previously issued in a monumental 16-CD box set, *The Complete Galaxy Recordings*, which came out in 1989 (and also on the Galaxy albums that set collected). But in this Omnivore set, 23 of the 42 tracks are new to the world. Laurie says that in August of 1981, "Art's health was bad. ... He lived on pastry and ice cream. He woke up every day surprised to be alive, and every tune he played, he felt might be his final word, his deathbed declaration."

Pepper died at 56 on June 15, 1982, 10 months after his Maiden Voyage engagement. This box set is too diverse, too rich, too sprawling, too of its moment, to be considered a deathbed declaration. As he neared the end, Art Pepper played like he had lived: all in, on the edge, defying risk. ■

1 But see Steven Wilson's comments on the CD in this month's music feature, which starts on p.106.

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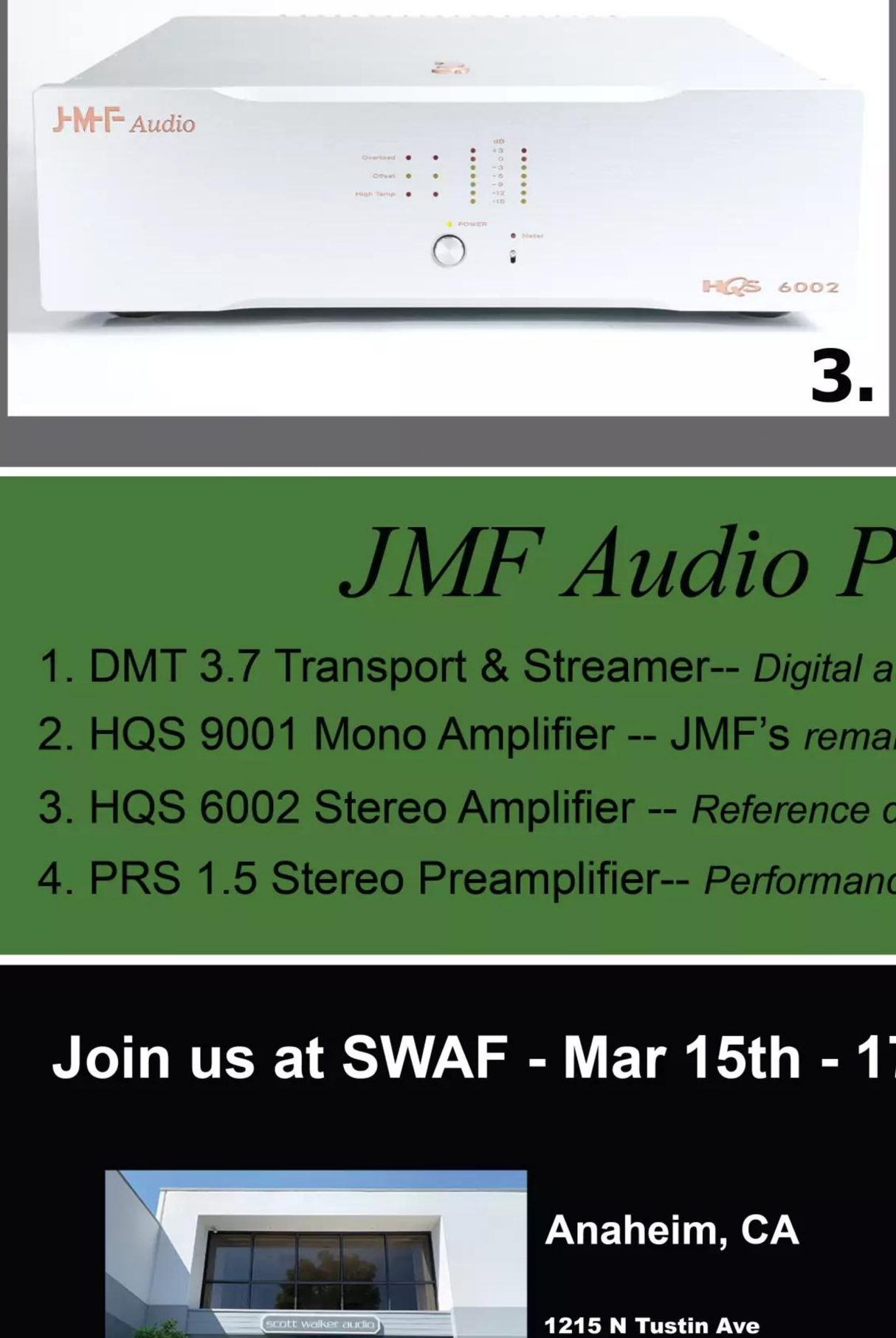

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REVINYLIZATION

BY ROBERT BAIRD

THIS ISSUE: With Luminessence, its 180gm vinyl-reissue label, the great ECM label returns to its roots.

ECM is back in the vinyl game

Given his seemingly endless stream of ideas, virtuoso instrumentalism, and considerable wealth of recordings, Keith Jarrett is a creative universe unto himself. He began his recording career on Atlantic Records and recorded for several labels, including Impulse!, along the way, but it was on Manfred Eicher's label ECM that he first broke through to worldwide fame in 1973, with the 3-LP set *Keith Jarrett, Solo Concerts: Bremen/Lausanne*. Considering its landmark status, it's fitting that the album is among the first releases in ECM's new Luminessence vinyl series, reissued in its original triple-vinyl form.

ECM began as a vinyl label in 1969, releasing ECM 1001—Mal Waldron's *Free at Last*—in 1970. By 1992, ECM albums were being released on CD only. The label's transition back to vinyl was a long time coming. With fresh lacquers cut from the original master tapes and pressed at Record Industry in Germany, this new series marks a sea change in ECM's trajectory as a label. In 2017, ECM became one of the last labels to make their catalog available for streaming. They've now become one of the very last to begin reissuing albums on vinyl. Like all things ECM, including which titles are to be reissued, the decision to jump back into the world of 12" LPs undoubtedly comes from ECM co-founder and continuing inspiration Manfred Eicher.

Jarrett's *Solo Concerts: Bremen/Lausanne* was followed a year later by the Jarrett/Jan Garbarek album *Luminessence: Music for String Orchestra and Saxophone* (1974), which the vinyl-reissue series is named for. *Bremen/Lausanne* came two years before the most famous Jarrett album, 1975's *The Köln Concert*, which has yet to be reissued on Luminessence.

The constant gush of ideas in *Bremen/Lausanne*'s three lengthy tracks is a musical fireworks display. Rarely stuck for a way into a musical exploration, or, and even more impressively, a way back out, Jarrett routinely hits on a theme with his left hand and then improvises in, on, and around it with his right until he deftly alights on another inspiration to build on, another ledge to dive from. He plays with great sensitivity and unremitting drive. There are moments in his playing, such as at the midway point in the second part of the Bremen concert, when the pace slows and he beautifully lingers, that make it clear that no one has ever, before or since, improvised music with this kind of inventiveness, speed, and flair.

Most powerful (and, it has been argued, most indulgent) as a solo player, Jarrett has also been very successful and productive playing in small groups, as demonstrated in 1975's *Gnu High*, a new Luminessence release from the late Kenny Wheeler. A Canadian who first achieved fame in the UK playing with John Dankworth's Big Band, the trumpet/flugelhorn player later played

fusion with Mike Gibbs and free jazz with Tony Oxley and Anthony Braxton. With his pure, distinctive tone and resounding imagination, Wheeler made this record, his 1975 ECM debut, with the all-star quartet of Jarrett, bassist Dave Holland, and drummer Jack DeJohnette. Propelled by DeJohnette's splashy cymbal work and Jarrett's usual dramatic ferocity, "Heyoke," the nearly-22-minute opening number, shows Wheeler's generosity as a leader. The sprightly and mercifully short "Smatter" showcases Wheeler's tone and Jarrett's incisive accompaniment, while the title track, taken at a leisurely tempo, allows all four players—particularly Holland, who takes a wonderful solo—to stretch out and live inside the music.

ECM's superpower has always been Eicher's ears and the major role eclectic music, especially what's often called "world music," has played in his expansive vision for the label. Brazilian Naná Vasconcelos plays the *berimbau*, a single-stringed instrument. Variously employed by Mickey Hart (Grateful Dead), Brazilian percussionist Airto Moreira, and Max Cavalera, leader of metal band Sepultura, the *berimbau* can be buzzy or have a plucked open-stringed resonance; either way it is unforgettably distinct. On the 19-minute "O Berimbau," from 1979's *Saudades*, Vasconcelos, assisted by string composer Egberto Gismonti and the Stuttgart Radio Symphony Orchestra, sways between reflective moments and insistent rhythms. On "Vozes (Saudades)," with persuasive violins in the background, Vasconcelos's voice is layered, overdubbed, and progressively speeded up into a vocal flurry. Also using vocals as a central element, "Ondas (Na Óhlos De Petronila)" achieves a groove, with an ominous gong rumbling in the background. Overall, a haunting set, whose origins are global.

Carrying on the spirit of the improvisational genius Ornette Coleman, in whose band all four members spent time, the quartet Old and New Dreams made five albums between 1976 and 1987, including their 1979 ECM debut, *Old and New Dreams*. Comprised of Dewey Redman (tenor saxophone), Charlie Haden (bass), Don Cherry (trumpet), and Ed Blackwell (drums), the quartet split the difference between the freedom of free jazz and the strictures of bebop. All four players are powerhouses, and their obvious chemistry allows them to share the solo spotlight effectively. Holland's solo enlivens the opener, a cover of Coleman's "Lonely Woman." Taken at a faster tempo, "Open or Close," another Coleman tune, is studded with rapid, economical solos, first by Redman in inventive squiggles and later by Cherry, twisting notes and reaching for conclusions in a higher register. The album closes on the ghostly wails of strings and horns, in Charlie Haden's "Song for the Whales."

These first four Luminessence reissues uphold ECM's long tradition of clear, natural-sounding, extremely well-recorded sessions. A pioneer of high-quality vinyl, Eicher's ECM is back in the game. ■

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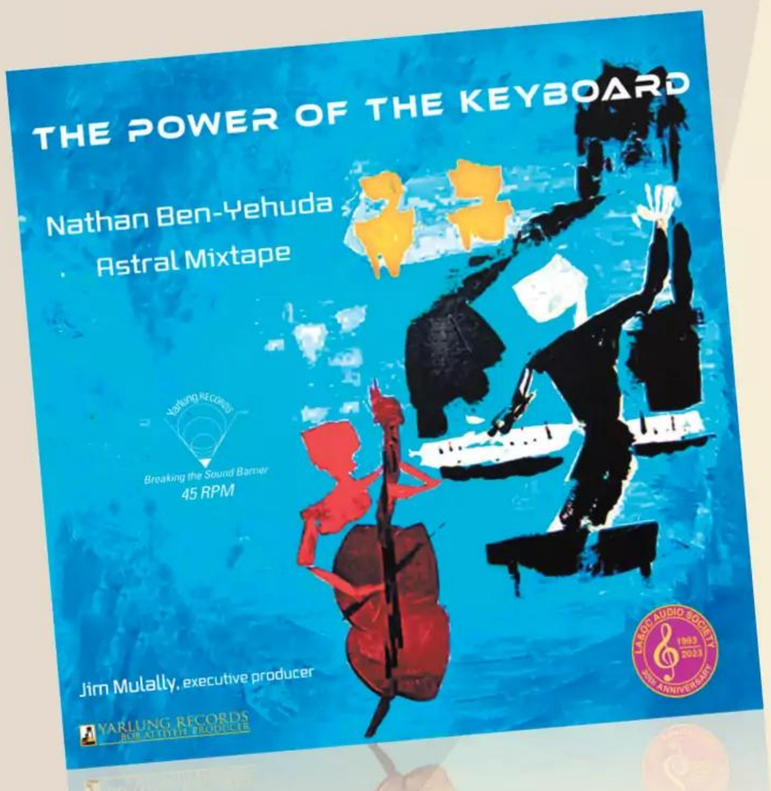

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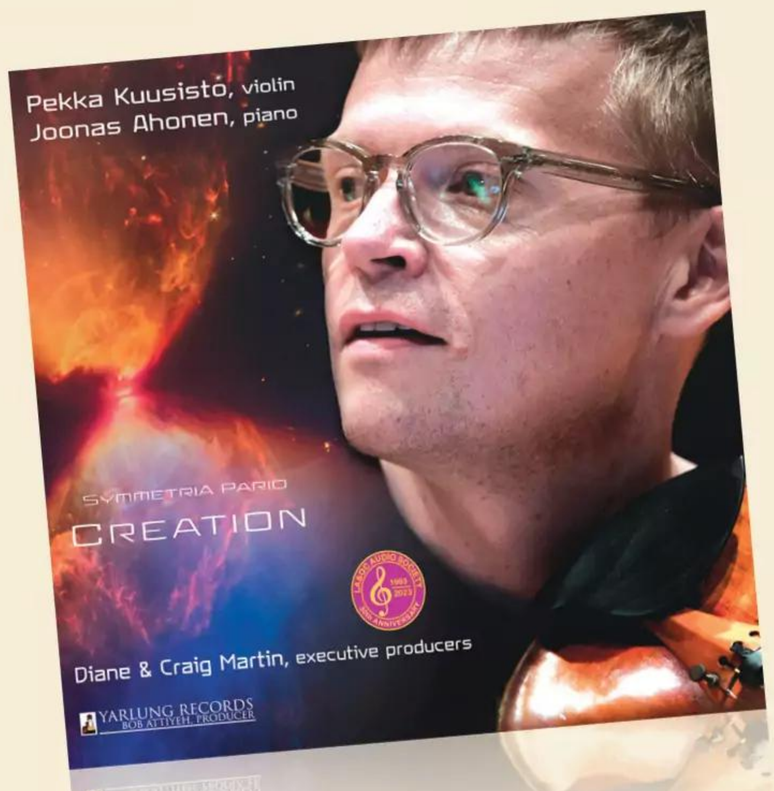

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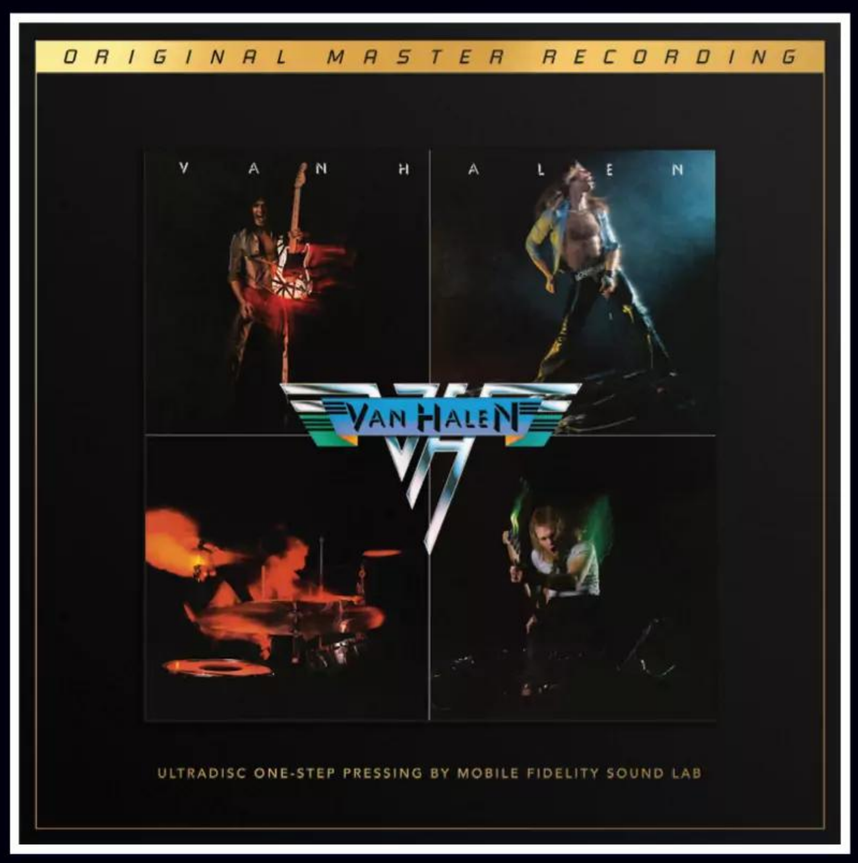
RECORD REVIEWS

EDITOR'S PICK

RECORDING OF THE MONTH



VAN HALEN
Van Halen

Warner Bros./Mobile Fidelity UD1S 2-032 (2 45rpm LPs). 1978/2023.
Ted Templeton, prod.; Donn Landee, Krieg Wunderlich, engs.

PERFORMANCE ★★★★½
SONICS ★★★★½

Never Mind the Bollocks was out, on a major label. A few months before, the Ramones had released their third album, *Rocket to Russia*. Elvis Costello's *My Aim Is True* had been out for a while, but it was still a game changer. Soon, *Darkness on the Edge of Town* and *Some Girls* would all be vying for attention. That was college radio circa 1978. And amongst all this progressive talent was even a flash of hope for mainstream metal bands.

I remember the day I walked into radio station WTGP, "The Great 88," at Thiel College and saw the *Van Halen* jacket for the first time. Drummer Alex Van Halen was a stereotypical blur. Bassist Michael Anthony acted the part of the metal bro. But that guitarist holding a ramshackle Stratocaster criss-crossed with electrical tape? On the back cover was a hairy-chested dude in profile, athletic tape on his knuckles, bent over backward in high-heeled boots.

Intrigued, I cued up the first track. Out came that descending car horn blare and the ominous opening pulse of "Runnin' with the Devil." Eddie Van Halen's phat, overdriven guitar tone, which defines the entire record, followed.

Cut in only two weeks by a rowdy bar band from Pasadena, which didn't have a lot of material, so they recorded their live setlist, *Van Halen* sold a million copies the first year and quickly became an early metal classic. It would stand forever as the band's finest recording. Other than four tracks with guitar overdubs and another, "Ain't Talkin' 'Bout Love," with electric sitar added, the album was tracked live in the studio. The result was a sonic immediacy the band's later, more processed records lack.

The album also has two musical quirks that work in its favor. First is the inspired choice of cover tunes. The beefed-up crunch of Eddie's guitar and the manic energy of David Lee Roth's vocals remake Ray Davies's "You Really Got Me," the album's first single, heftier and more anthemic than the Kinks original. Some fans took the inclusion of "Ice Cream Man" as a sign that the band respected the blues, but to me, the band's soft-loud, acoustic-electric cover of bluesman John Brim's lascivious tune sounds more like an opportunistic romp.

The other bizarre, memorable musical twist captured on *Van Halen* is the album's second track, "Eruption," an explosive, purely instrumental guitar solo. Eddie's tapping technique, his mastery of feedback, of holding and smearing chords, and his relentless, serrated attacks make this perhaps the only guitar solo to ever be played as often as an album's pop singles. Those three singles—"Runnin' With the Devil," "Ain't Talkin' 'Bout Love," and "Jamie's Cryin'"—all with songwriting credited to the entire band—were wisely sequenced near the beginning. All three are solid, hooky, midtempo hard-rock tunes that allow both the band's heavyweights, singer David Lee Roth and guitarist Eddie Van Halen, plenty of room to stretch out. Much to the band's credit, the album contains no long power ballads, the usual, boring refuge of hard rockers running short on material (taken to extremes by many yet-to-come hair bands).

Van Halen went on to sell more than 10 million copies in the US alone, yet it never got higher than #19 on *Billboard*'s *Top Albums* chart. It has reappeared occasionally on *Billboard* album charts since, most recently in 2020. Alas, my original LP copy, with the Warner Bros. palm-tree labels, is now an over-loved veteran of too many altered states, misjudged needle drops, and unbalanced, groove-grinder phono cartridges.

Happily, the original album has had three essential vinyl reissues since 1978 at 33 1/3. In 1998, Steve Hoffman remastered the album from the two-track master mixes for the DCC label. The results are available on gold CD and 180gm LP, with vinyl pressed at RTI. In 2009, Hoffman and Kevin Gray teamed up for another remaster, this time at Acoustech, which was then pressed on 180gm vinyl, also at RTI. In 2015, it was remastered again by Chris Bellman, who also cut the lacquer, at Bernie Grundman Mastering in Los Angeles. That version was pressed at Record Industry in the Netherlands.

This new Mobile Fidelity two-LP, 45rpm Ultradisc One-Step reissue, mastered by Krieg Wunderlich, is beautifully packaged in the One-Step series' new, slimmer slip-box packaging. The mastering chain is prominently displayed on each LP jacket: "1/4" / 30ips analog master—DSD 256—analog console—lathe."

The stereo image and the level of detail are extremely good, but neither is radically better than what's heard on the earlier Hoffman reissues. On the other hand, the Mobile Fidelity release's faster running speed pushes more air into the soundstage, adding space to the already expansive mix. The pressing is stable and quiet.

The quest to improve the classics never rests.—**Robert Baird**

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ROCK/POP

JOHN PRINE
John Prine

APA/Atlantic 004-45 (2 180gm, 45rpm LPs). 1971/2023. Arif Mardin, prod.; Stan Kesler, eng.; Dale Smith, asst. eng.

PERFORMANCE ★★★★★
SONICS ★★★★½

Judged by none other than Bob Dylan to be "Pure Proustian existentialism, Midwestern mindtrips to the nth degree," the late, great Prine's enduring debut remains a landmark of musical Americana and one of the finest collections of original folk songs in popular music. Fresh from the Chicago folk scene, where he befriended Steve Goodman, who plays on two of the tracks, Prine's tales are filled with unforgettable characters: the broken junkie in "Sam Stone"; the philosophical "topless lady" of "Spanish Pipedream"; the aging couple in "Hello in There" and their touching need for kindness. Prine was expert at mixing humor and sadness. This marvelous album will forever be his masterpiece.

While the quality of the material is remarkably consistent, two tracks stand out. "Paradise," with Goodman on harmony vocals, is a finely etched portrait of Prine's childhood. "Angel from Montgomery," told from a woman's point of view, has an enchanting melody and evocative lyrics that Prine never bested: "If dreams were lightning/And thunder were desire/This old house would've burned down/A long time ago." "Paradise" was recorded in New York City, but the rest was recorded, at Atlantic's insistence, at Chips Moman's American Sound Studio in Memphis. Thrown off at first by the simplicity of Prine's arrangements, American's funky studio players like guitarist Reggie Young, pianist Bobby Wood, and drummer Gene Chrisman—all of whom played at the studio just two years before on Elvis Presley's career-changing Memphis sessions—eventually locked on to Prine's spiritual universe. While his voice can be an acquired taste, this warmer, fuller 45rpm cut gives it a touch of extra resonance. Instrumental details, like the pedal steel in "Illegal Smile," have never been more prominent. This is a 45rpm audiophile cut that's a clear audible improvement over the original.—**Robert Baird**

BOB DYLAN
The Complete Budokan 1978

Sony Music SCIP 6540-3 (4 CDs). 2023. Heckel Sugano, Tetsuya Shiroki, prods.; Tom Suzuki, remix eng.; Akihito Yoshikawa, remaster eng.; Yuta Yoneyama, asst. eng.

PERFORMANCE ★★★★½
SONICS ★★★★½

Over the years, rearranging and reorchestrating his songs has become the game Bob Dylan loves to play. When his two-LP set *Bob Dylan at Budokan*, his third live album in five years, was released in 1978, two years after his Rolling Thunder Revue tour had concluded, the reaction was very mixed, thanks to the radically different arrangement choices. Originally a mix of tracks from two nights, February 28 and March 1, 1978, this new reissue contains both shows in their entirety. Remixed and remastered from the original 24-track tapes, *The Complete Budokan 1978* now contains 36 previously unreleased performances.

The sound is much improved; there's no doubt that the fresh mix brings a new, appealing energy to some of these songs.

Bob is in reimagining mode throughout. Some of the changes, as in the February 28 version of "Simple Twist of Fate," do feel arbitrary and without a musical justification—just Bob being mischievous and doing it because he can. Most jarring of all are the all-instrumental versions of "A Hard Rain's A-Gonna Fall," which have been E Street Band–ized with electric guitar, lots of organ, fiddle solos, and passages where the high-hat cymbals go into disco mode.

On the other hand, a smooth, beautifully paced version of "Just Like a Woman," from the March 1 set, with Dylan adding a harmonica solo, is powerful.

When they work, these changes add a bounciness and accessibility that he and his music are often justifiably accused of lacking.

The saving grace of the entire package is his voice, which has never been better. And much to his credit, he avoids the trap, inherant in many live albums, of replicating the better-known studio versions. Eternally controversial, but now even more essential for Dylan fans.—**Robert Baird**

CLASSICAL

JIMI HENDRIX EXPERIENCE
Jimi Hendrix Experience: Hollywood Bowl August 18, 1967

Legacy Recordings (auditioned as LP). 2023. Janie Hendrix, Eddie Kramer, John McDermott (Experience Hendrix, L.L.C.), prods.

PERFORMANCE ★★★★★
SONICS ★★★★½

It took only nine dates as The Monkees' opening act for the Jimi Hendrix Experience to realize that the teenage audiences coming to those shows weren't going to help them leverage the success they'd just earned playing throughout Great Britain. They dropped off the tour and quickly scrambled to find new dates. John Phillips of The Mamas & The Papas stepped up and saved the day by inviting The Experience to open for his group at the Hollywood Bowl. Now an album documenting that event has been released, *Jimi Hendrix Experience: Hollywood Bowl August 18, 1967*.

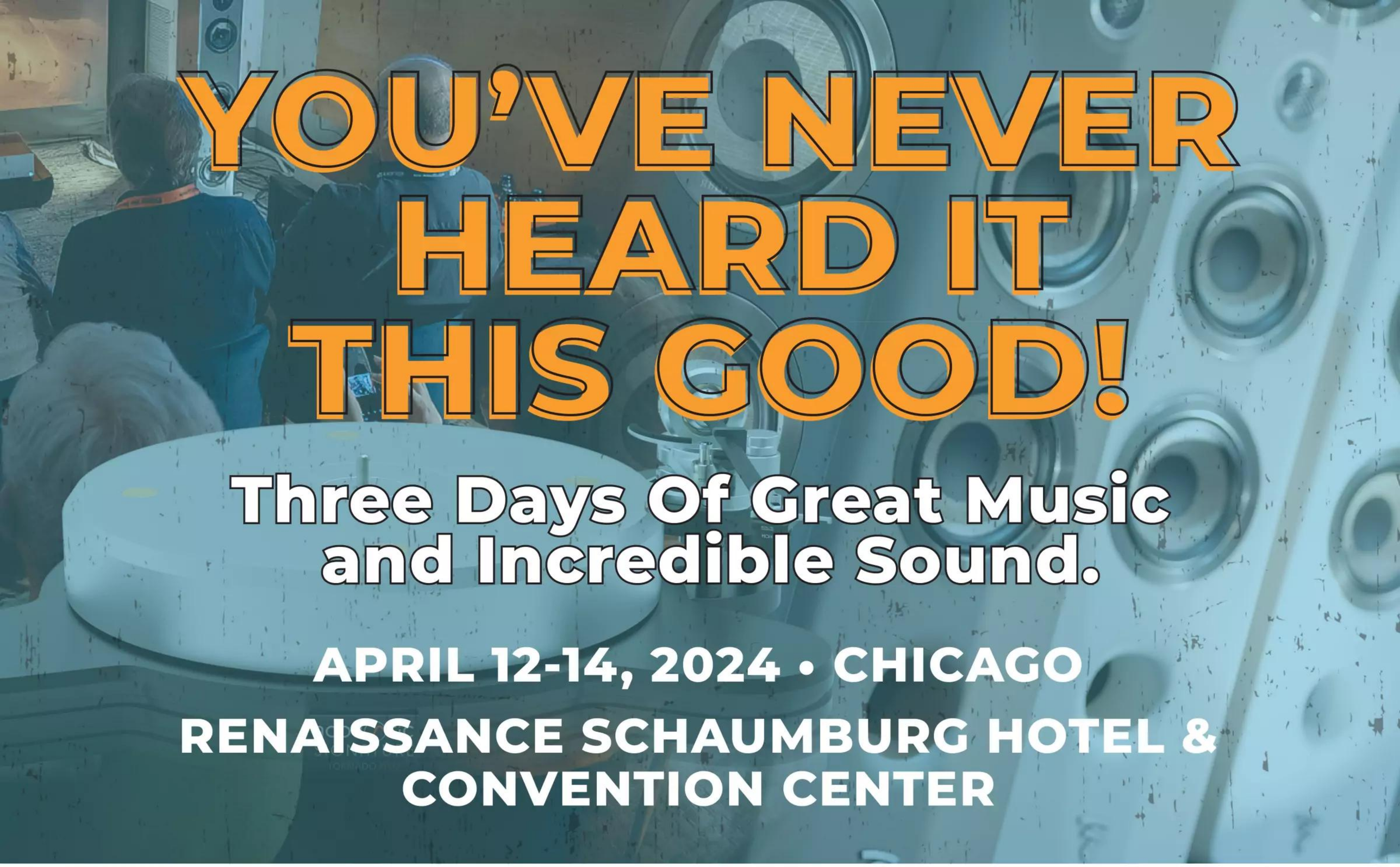
It's the first official release of a show that fans and collectors have been waiting a long time to own. The two-track tape was restored by long-time Hendrix producer Eddie Kramer, and it sounds outstanding.

The concert opens with an explosive rendition of The Beatles' "Sgt. Pepper's Lonely Hearts Club Band," a song and album released only a few months earlier. It was a bold way for the band to introduce itself—an act so recently added to the bill that it didn't even appear on most tickets—to an American audience.

The nine-song, 45-minute set includes fiery renditions of songs like "Foxy Lady" and "Fire" that would help define their signature sound. There are also covers of "Like A Rolling Stone" and "Wild Thing" that present arrangements that often rival the originals. There's only one outright jam, the band's blistering eight-minute cover of Muddy Waters's "Catfish Blues."

Mastery of the guitar sits at the center of these songs, as you would expect, and on Howlin' Wolf's "Killing Floor," the set's second track, Hendrix reimagines the blues through a psychedelic lens and sets in motion an American guitar renaissance that has never been matched.

—**Ray Chelstowski**



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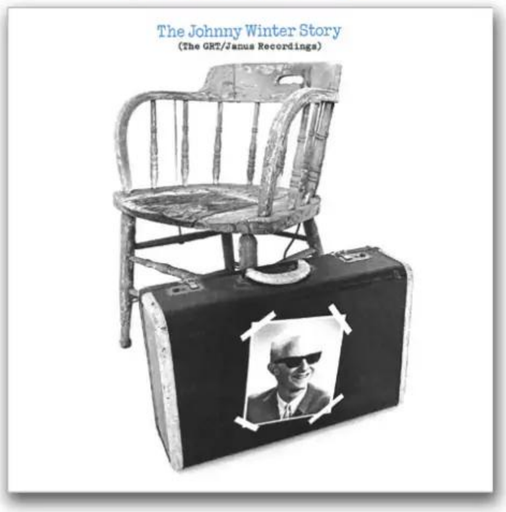

JOHNNY WINTER
The Johnny Winter Story (The GRT/Janus Recordings)

Omnivore Records (auditioned as CD). 2023.
Cheryl Pawelski, prod.; Michael Graves, eng.

PERFORMANCE ★★★★★
SONICS ★★★★★

In 1969, when Columbia Records introduced Johnny Winter to the world as "the next Jimi Hendrix," they gave him possibly the largest advance anyone had ever received and supported the investment with a good amount of promotion. GRT and then Janus Records responded by releasing compilations of material he recorded over several sessions in Houston when he was a studio player. Now Omnivore Recordings has packaged them as a complete set: *The Johnny Winter Story (The GRT/Janus Recordings)*. It's the first-ever collection with all of the tracks, 33 total, from compilation albums *The Johnny Winter Story* (1969), *About Blues* (1969), and *Early Times* (1970).

Recorded in multiple sessions throughout Houston, these songs present a different performer than the one who arrived at Woodstock. This artist is more refined, with songs fully orchestrated, often with nightclub-slick arrangements and a voice focused more on nuance and delivering an authentic sense of soul than the full-throated blues belting he'd become known for.

At times, it's impossible to fathom how these vocals and the remarkable speed and precision he brought to his guitar playing could have been so fully developed at such a young age.

The songs have been remastered, and there's a sound clarity to be found here that balances the vintage footing of the writing with a crispness and separation that makes this one of Winter's most compelling releases ever. Pay close attention to songs like "Gangster of Love" and "Kind Hearted Woman," where the essence of who he would become as an artist begins to be revealed. But then dig in deep to instrumentals like "Harlem Nocturne" and "Take a Chance on My Love." There the jazz chops he rarely revealed present an artist whose range was never quite fully explored.

—Ray Chelstowski

JAZZ

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Origin 82886 (auditioned in WAV, available as CD). 2023.
Anschell, prod.; Reed Ruddy, Anschell, engs.

PERFORMANCE ★★★★½
SONICS ★★★★½

Digital music technology keeps expanding within the jazz art form. Digital tools come with risks. Many musicians treat them like fun toys; as they twist knobs, musicians are often having more fun than their listeners. But electronics can open vast landscapes of sonic possibility for artists who remain committed to fundamental values like musicality and taste.

One is Bill Anschell. He has been the best mainstream jazz pianist in the Pacific Northwest for years. His new project represents a radical departure in creative process. When you put on this record, you hear a well-recorded acoustic piano trio hitting hard on a dynamic tune called "Ambulator." Anschell's favorite rhythm section, bassist Chris Symer and drummer Jose Martinez, is kicking ass. Then you notice that a guitar (played by Brian Monroney) is peeking out in the open spaces. You hear an evocative sound, perhaps wind or the sea, around the edges of the piano notes.

The third track, "Gentle Persuasion," is quieter but even more striking. The wistful melody is portrayed by a rich, resonant piano. Mysterious whisperings in the distance, suggesting a string orchestra, gently push back the horizon of the music.

But there is no acoustic piano. Anschell prerecorded all the piano parts in his home studio, assembling them from software synthesizers and keyboard samples. He even created scratch bass and drum parts electronically. But then, in a recording studio in Seattle, he turned Symer and Martinez loose to replace those parts. Monroney added his guitar touches in Anschell's home studio. Also in his home studio, in an undertaking that required many months, Anschell sculpted nine tracks into an organic whole. This fascinating album will mess with the minds of purists who still distrust digital music technology.**—Thomas Conrad**

FRANK SINATRA
Sinatra Platinum

UME/Capitol/Signature Sinatra 5575097 (4 LPs). 2023.
Charles Pignone, compilation prod.; Larry Walsh, mixing and audio restoration eng.

PERFORMANCE ★★★★★
SONICS ★★★★½

Francis Albert Sinatra signed with Capitol Records in 1953. A series of smoothly produced albums whose arrangements never rose above a midtempo beat followed. While Sinatra wanted to run his own show and kick up the tempos—eventually founding Reprise Records in 1963—the Capitol years arguably contain his finest singing. By then his phrasing was his own and his voice was at its peak. Here the Sinatra family and Universal Music continue to mine the singer's recording catalog by producing a coffee table book, four-LP compilation of the singer's Capitol years (1953–1961). Meant for casual fans and those looking for a conversation piece, it's organized chronologically but comes without any production credits.

When questioned, UME confirmed that this set uses a mixture of tape and high-resolution sources, as well as fresh remasters by Larry Walsh (who has been remastering the Sinatra catalog since the late 1980s). The lacquers were cut by Kevin Reeves at East Iris Studios in Nashville, Tennessee, and the LPs were pressed in the Czech Republic at GZ. That last step keeps the sound from being a huge improvement.

No surprise, the classics of Sinatra's Capitol catalog remain unassailably wonderful. Judged purely on the quality of his vocals, renditions of "I've Got You Under My Skin" or "Come Fly with Me" were not surpassed by his later up-tempo Reprise re-recordings. While the snap and sly wisdom in the Reprise version of "The Lady Is a Tramp" mark it as definitive, the singing on this version is superior. And while overripe and slathered in violins, a weepy ballad like "Where Are You?" still has breathtaking vocals. An LP of alternates, outtakes, and an amusing radio spot—four of which are previously unreleased—is essential for hardcore fans. Overexposed? Definitely. Essential? Without question.**—Robert Baird**

JAZZ

NITAI HERSHKOVITS
Call on the Old Wise

Hershkovits, piano

ECM 2779 (CD, available as LP). 2023. Manfred Eicher, prod.; Stefano Amerio, eng.

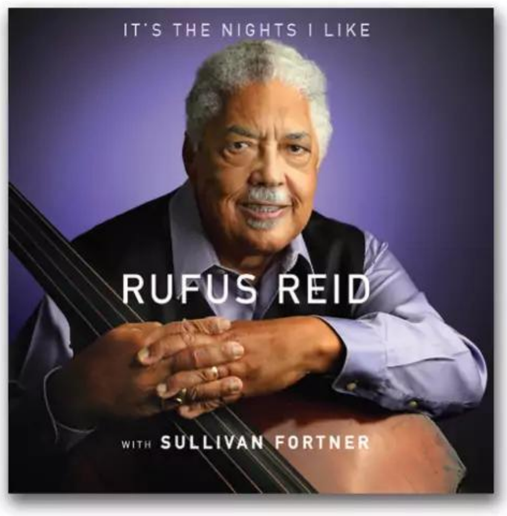
PERFORMANCE ★★★★½
SONICS ★★★★½

One of the most powerful concerts your present correspondent witnessed in 2023 took place in October at the Belgrade Jazz Festival in Serbia. Timing was part of it. Everyone in the auditorium was aware that Oded Tzur, tenor saxophonist of Israel, was performing a few days after his country had been attacked and gone to war. When Tzur came on stage he announced, "This music was written about love. I never thought we would play it at such a moment."

His set was a dark, solemn, incantatory ceremony. Tzur was brilliant, but after the concert everyone was talking about his piano player. Nitai Hershkovits is also from Israel. Every time he soloed that night, he stopped time. His playing touched many worlds and many dimensions: rhythms of the Middle Eastern street; Western classicism; emotional crisis; crystalline lyricism.

Now Hershkovits's ECM debut is here. The format is unusual, with 18 short tracks of solo piano, mostly improvised. The ambience is inward and searching. As his thoughts and feelings flow, Hershkovits again and again comes upon unfamiliar iterations of beauty. The format imposes its own limitations; five tracks are under two minutes and six more are under three. Sometimes these miniatures only have space for one idea, one gesture. But they never sound random or slight. From free air—in the moment—Hershkovits snatches complete songs. There are gradual ascents to chiming epiphanies in "Enough to Say I Will," revelations of the deepest yearning with "Of Trust and Remorse," and one-minute distillations of melody, preserved as if in amber on "Mode Brilliante."

There are two well-chosen covers. "Dream Your Dreams" is by Molly Drake; Hershkovits rends your heart with it. Duke Ellington's "Single Petal of a Rose" becomes a mantra, a foundation for lavish, swirling piano inventions.—**Thomas Conrad**



RUFUS REID
It's the Nights I Like

Reid, bass; Sullivan Fortner, piano

Sunnyside SSC 1730 (CD, available as LP on Newvelle). 2024. Reid, prod.; Marc Urselli, eng.

PERFORMANCE ★★★★½
SONICS ★★★★★

With a piano/bass duo recording, it is natural to think the piano player will dominate the proceedings, even when the bassist is the leader. The temptation is even stronger when the pianist is one of the hottest young stars in jazz: Sullivan Fortner placed fourth on piano in the 2023 *DownBeat* Critics Poll, ahead of Brad Mehldau.

Here, such an assumption is wrong. Rufus Reid, a great elder statesman of jazz, presides magisterially over his album. Reid came up in the 1970s, when jazz bassists mostly pursued a low-frequency art. Today, there are more bass virtuosos than ever, brilliant soloists who love the instrument's upper register. They can make the bass as quick as a guitar.

On a Charles Mingus classic, "Duke Ellington's Sound of Love," Reid reminds us that he is a bass (versus treble) player. His dark, resonant, powerful notes shake your floor. They rock your soul. No instrument is more commanding, more physical in its passion than an acoustic bass in the right hands.

That Reid devotes himself to the deeper sonorities of his instrument does not render him less articulate as a soloist. He plays Ellington's "Sophisticated Lady" and makes the melody sing. Jimmy Rowles's "The Peacocks" is not often performed as a bass feature; it is a delicate, elusive, haunting song. Reid's interpretation plumbs new depths of poignance—it never sounded more profound.

Marc Urselli's superb engineering is a huge reason for this album's sonic, aesthetic, and emotional impact. *It's the Nights I Like* is a reference-quality recording of an acoustic bass.

As for Fortner, his piano work here, also beautifully recorded, justifies the buzz about him. In this minimalist setting he picks his spots, offering only lyrically pristine bare essentials.—**Thomas Conrad**

CLASSICAL

STRAVINSKY, MANUEL DE FALLA
Pulcinella Suite; El retablo de maese Pedro; Harpsichord Concerto

Mahler Chamber Orchestra, Pablo Heras-Casado, cond.; Benjamin Alard, harpsichord

Harmonia Mundi 902653, CD (reviewed as 24/96). 2024. Alexandra Evrard, prod.; Vincent Mons, eng.

PERFORMANCE ★★★★★
SONICS ★★★★½

Many music lovers associate Stravinsky's music for Diaghilev's ballet *Pulcinella* as a defining composition in the post-WWI neoclassical movement. Few know that Diaghilev initially chose De Falla as the score's composer. Diaghilev turned to Stravinsky after the overcommitted Falla was forced to turn down the commission.

While Stravinsky was composing *Pulcinella*, whose captivating themes were drawn from the music of Pergolesi, Parisotti, and two other 18th century composers, Falla set to work on his chamber opera *El retablo de maese Pedro* (Master Peter's Puppet Show). With a libretto drawn directly from Cervantes's *Don Quixote* and themes from older music, the lively opera premiered in 1923, three years after the *Pulcinella* premiere. It's a major find, performed beautifully by a fine cast: three Spanish singers, the Mahler Chamber Orchestra, and Benjamin Alard on harpsichord.

Pioneering harpsichordist Wanda Landowska, who played for the chamber opera's premiere, became the dedicatee for Falla's final, 13-minute composition. The short first movement begins hilariously as its incessant mechanistic assault jumps like a jackrabbit on steroids. The second, slower movement mocks formality. Its grand procession lumbers under the weight of its pomposity, at one point seemingly bowing its head in embarrassment. All returns to frolic in the light, Commedia dell'arte–meets–vaudeville final movement.

In this excellent recording filled with verve, light, humor, and beautifully delineated rhythms, Alard plays one of the few surviving 16' register Pleyel "Grand Modèle de Concert" harpsichords built for Landowska and played at the concerto's 1926 premiere. A must hear.—**Jason Victor Serinus**

PIERRE GÉNISSON
Mozart 1791

Pierre Génisson, clarinets; Concerto Köln, Jakob Lehmann, cond.; Karine Deshayes, mezzo-soprano

Warner Classics/Erato 5419773233 (reviewed as 24/96). 2023.

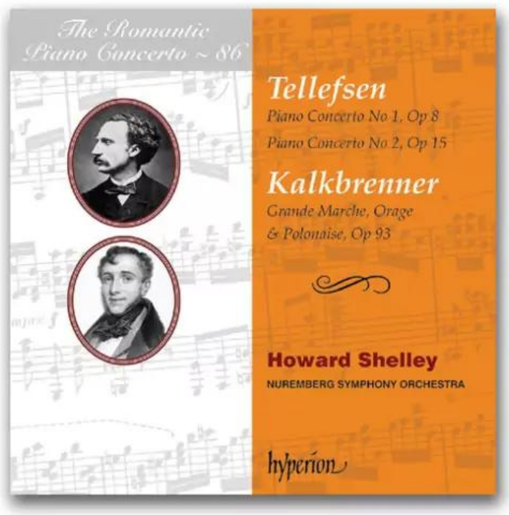
Maximilien Ciup, prod./mixing/mastering; Aurélien Marotte (Meudon), eng.

PERFORMANCE ★★★★½
SONICS ★★★★½

So many recordings of Mozart's music appear annually that it's hard to know where to start. But the moment I heard the luscious blend of Pierre Génisson's full and warm-sounding period and modern clarinets, basset clarinets, and basset horn with Concerto Köln's period instruments, I was hooked on *Mozart 1791*. Génisson's sound is so smooth, liquid, and ingratiating that it bears comparisons with that of Richard Stoltzmann (whom I heard from row one of Berkeley's Hertz Hall) and other fabled clarinetists. His breathing and action are extremely quiet, and the playing subtle, nuanced, and remarkably free of edge.

The program is "curious," to say the least. In addition to the famed Clarinet Concerto in A K.722, beautifully played on basset clarinet in A, Génisson and Concerto Köln join mezzo Karine Deshayes for Sesto's "Parto, parto, ma tu ben mio" and "Ecco il punto, o Vitellia... Non più di fiori" from La Clemenza di Tito. It can take a while to warm to Deshayes's idiosyncratic voice, which is neither as sumptuous (Horne) nor as emotionally compelling (Baker) as some. But once Deshayes begins to embellish at lightning speed, she's in a class all her own.

Of the vocal selections arranged by Bruno Fontaine for clarinet and orchestra, the most successful is "Voi che sapete," where Génisson melds winning naivete with fascinating embellishments. The beginning of "Come scoglio" flops because a clarinet can never express Fiodililigi's rock-solid, emphatic declaration, but it compels once the music starts to move. "Soave sia il vento" is lovely; the Lacrimosa from the *Requiem*, with Fontaine on organ and Fender Rhodes, is a trip but hardly tear-inducing. A guilty pleasure but one that could top your playlist.—**Jason Victor Serinus**



TELLEFSEN
Piano Concerti 1-2

KALKBRENNER
Grande Marche interrompue par un orage et Suivie d'une Polonaise

Nuremberg Symphony Orchestra/Howard Shelley (piano-conductor)

Hyperion CDA68345 (CD). 2024. Annabel Connellan, prod.; Ben Connellan, eng.

PERFORMANCE ★★★★½
SONICS ★★★★★

The First Concerto of Norwegian composer-pianist Thomas Tellefsen (1823–1874) reflects extensive training with Chopin in its predominantly linear writing and swatches of extended, freestanding solo. Often, the orchestra punctuates the start of a new section; piano then takes over, or it will join the piano at the cadences of a chorale. Otherwise, the aesthetic is a less concise, less flashy Mendelssohn. The finale meanders, but I appreciated its unexpected mood changes.

The Second Concerto is more volatile. The piano enters on an elaborate, cadenza-like outburst. The orchestra provides taut, compact *tuttis* and lovely clarinet solos. The first movement shifts modes ambivalently. The finale, after some orchestral indecision, settles into a scurrying tarantella—though the adjustments in and out of the second theme don't feel organic. Shelley's tone in both concerti is weighted and articulate. He shapes everything musically, keeping the chorales simple, vigorously rising to the climaxes.

Kalkbrenner's title is accurate: a Lisztian andante introduction; a miniaturish march passed between piano and orchestra; and a sprightly polonaise that goes on too long. The orchestra covers a wider palette, while the solo offers Shelley scope for technical and coloristic variety.

The Nuremberg Symphony plays capably, though the First Concerto needed more strings, and the high violins can be dry. With the soloist "conducting," a few times the players fell slightly behind. I wondered whether they'd have been tighter with a separate conductor. Hyperion's sonic frame, as usual, is judiciously warm and agreeable.—**Stephen Francis Vasta**

MAHLER
Symphony 8 (Symphony of a Thousand)

Carolyn Sampson, Jacquelyn Wagner (s); Sasha Cooke, Jess Dandy (a); Barry Banks (t); Julian Orlishausen (bar); Christian Immler (bs); Minnesota Chorale, National Lutheran Choir, Minnesota Boychoir, Angelica Cantanti Youth Choirs; Minnesota Orchestra/Osmo Vänskä

BIS-2496 (SACD). 2023. Robert Suff, prod.; Thore Brinkmann, eng.

PERFORMANCE ★★★★½
SONICS ★★★★½

Vänskä plays Part I of this behemoth with buoyancy. Dotted rhythms are springy, even the brass interjections have a welcome "lift," and tempo adjustments are judicious. The conductor thus maintains a solid through line, mostly without losing the sense of occasion. The solo-dominated passage in the development stalls—the sonority never coheres—and Vänskä sails seamlessly into the "Veni" recap. Conversely, by picking up slightly for the coda, he signals the home stretch. Here and in Part II, the violin solos are unusually Expressionist and disturbing.

The conductor's approach works even better in Part II's small-group "chamber" episodes. It begins in hushed, patient anticipation—accents at once cushioned and emphatic. The following, gripping passage turns tender, and the midrange chorales have a hieratic solemnity. The first solo, for baritone, arrives firmly. Subsequent episodes are clearly textured. Light staccatos in Jene Rosen aus den Händen aren't quite "festive," but from the women's little fugue to the end, the buildup is logical.

Sampson's soprano is luscious; she and Wagner swap off the high peaks with alacrity and accuracy. Banks, overparted and strained, settles into a fine "Blicket auf!" Bass is authoritative but stiff. Massed choruses are excellent at all dynamics but with a blended hush that doesn't quite cut through on their first Part II entry.

The sonics are the most natural yet; wind soli emerge precisely placed and with depth. The final, well-balanced peroration never becomes overwhelming. I can't imagine Vänskä's restraining it, but neither would the BIS engineers need to use a limiter. A strange shortfall at the end of a marvelous production.—**Stephen Francis Vasta**

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RE-TALES

BY JASON VICTOR SERINUS AND JIM AUSTIN

THIS ISSUE: Some tips for putting your best foot forward at audio shows, from a couple of show-coverage veterans.

Showing your best

Dear audio show exhibitors: This one's for you.

As members of the press who have spent decades covering audio shows, we've developed a clear sense of what works for us and—we think—for other show attendees. We ask your indulgence as we share our observations about how to mount a successful exhibit and get the best coverage possible from *Stereophile* and, presumably, other publications.

Over and over, we see mismatches between the size of the speakers and the size of the room. Consider the exhibit space before deciding which equipment to demo, especially speakers. You may have a big new speaker to show off, but it will not show well in an undersized room.

Room size isn't the only consideration; also consider the room type. Air-walled convention spaces in subdivided ballrooms can play havoc with low bass and suffer from serious bleed from the adjoining rooms. A truck's worth of room treatment and copious thick black draping may tame bass nodes and control reflections, but it may also flatten the soundstage and reduce air and spaciousness that contribute to the "you must hear" buzz and reportage you hope to generate.

Remember to be careful with that volume control. The ears of seated visitors are roughly at tweeter level. You, on the other hand, are off to the side, where the treble and midrange aren't as loud. The best way to deal with this issue is to calibrate volume in advance for every track you intend to play, with levels determined while seated between the speakers.

Experienced reviewers know that a new product may approach its full potential only during the last hours of a show, so tip us off when the system isn't fully broken in. We can make allowances.

Speaking of making allowances: We know how hard it is to get good sound in a random hotel room or segmented ballroom. We won't condemn a product or company just because the sound isn't optimal. It rarely is. Which is precisely why we're impressed with rooms in which the sound is *really good*, and with companies that manage to achieve good sound year after year, show after show, demonstrating that it can be done. So spend the time it takes to make a proper marriage of system and room. Nothing matters more.

How many times have members of the press—and the broader public—asked for an equipment list with accurate prices? Yet every show has rooms in which no such list is available. Take the time to prepare one. There's no need to print hundreds—just post said list (with pertinent details and specs) on the door or an accessible wall so that we can snap a photo with our camera or smartphone. We'll reward your efforts with more thorough and accurate coverage ... especially if the list is detailed and error-free.

Informing us of what you're up to, though, starts well in advance of the show. We're probably on your email distribution list—if we're not, we should be—so send us a press release ahead of time. Highlight new products—we love to cover those. Social media posts do not cut it.

Stereophile show reports include original photography. Please help us by making your systems photography friendly. It is difficult to photograph a speaker with a bright LED lamp right beside or directly behind it. A speaker or stack of components set up by a window and backlit by a bright, sunny day is even worse—as challenging as shooting sharp photos in dim light. So, please take the time to get the lighting right. We'll do what we can to get good shots: moving lights around, asking you to close curtains, standing on chairs, laying on floors, contorting ourselves in other bizarre ways. But there's only so much we can do given time and resource constraints.

Just as important is to keep the room neat, those pretty components polished and fingerprint/dust-free. Cables sprawled carelessly across the floor and messy piles of discs (silver or black) make it look like you don't care. Sweat the details, visual as well as sonic, to make the best impression.

Because we want to know technical details for new products, we may ask you to step outside to discuss: We prefer not to disturb the other showgoers. Even better is a short exposition several times an hour

in which you concisely provide basic facts and answer questions. Concision is key. And please treat music like music. Play an entire selection rather than 30-second snippets. Give us a chance to settle in to the experience.

Some audio writers and publications may expect you to cater to their every whim, like the imperious restaurant critic in the film *Ratatouille*. At *Stereophile*, our expectations are more modest. As much as we hope you'll direct us to a seat that shows off your system at its best, please don't shoo everyone else out of the room and lock the door behind them so that we can have a private listening session. It's unnecessary and embarrassing.

Quiet is important. So please set an example and don't engage in conversation while the music is playing. Learn some techniques to control the crowd. If attendees start chatting loudly just after they're seated, intervene courteously. If the conversation continues, ask them to leave. Keep the room focused on what matters: the equipment and the music.

Sometimes people chat because they're bored. Even classical die-hard JVS would rather hear a good pop, electronica, or rock'n'roll track than well-recorded Sunday-brunch classical or soporific smooth jazz conducive to elevator excursions. Nothing reveals more about an exhibitor's priorities than the playlist. Banish the old, stale music played year after year in room after room. Show us you love music by playing something new and good. Surprise us.

Shows require showmanship. Professionalism. The better the sound, the more comfortable and stimulating the experience. Do your part to put your presentation over the top. Our coverage—and the response of the other attendees—will reflect your care. ■

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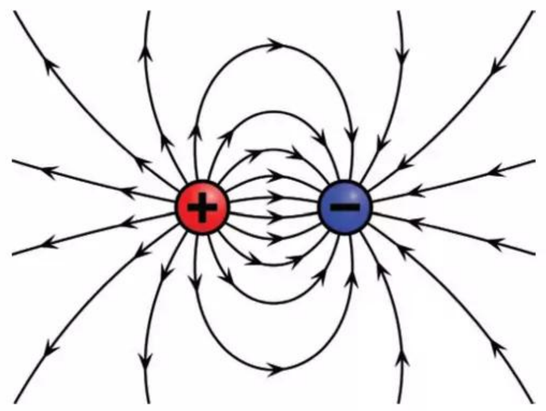

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MANUFACTURERS' COMMENTS

THIS ISSUE: Representatives of IKIGAI, Weiss, Gold Note, and Rogue Audio respond to our reviews of their products.

IKIGAI Kangai

Let me thank Herb and *Stereophile* for the nice words about IKIGAI Kangai-level cables. It's clear that by connecting your components with quality cables, you can have a more rewarding listening experience.

I also want to thank Jeffrey Dam of IKIGAI for his fine engineering and execution of these excellent designs. I've used almost every brand of cables over the past 50 years, and it's a pleasure to now represent this wonderful product from the Netherlands. I find that in my personal system they have added a degree of excitement that is rare and elusive and something that every music lover could appreciate.

Steve Davis
BEC Consulting / Analog Matters

Weiss Engineering Helios

Many thanks to *Stereophile* and to John Atkinson for the Weiss Helios review.

We are pleased the review was conducted by John, who previously reviewed the less expensive Weiss DAC502. Having the same reviewer assess both products adds depth and insight to the newer review, which we feel makes it more interesting and valuable for readers.

We also appreciate the time and effort invested in taking the measurements. On a product of Helios's caliber, the measurements are important and provide a further and unbiased appraisal of the DAC's capabilities. We are also pleased the measurements confirmed John's listening conclusion that the Helios offers a noticeable and worthwhile upgrade from the DAC502.

Finally, we are delighted with John's summary that today it is no longer necessary to choose between accuracy and musicality in a DAC, as this is what we've all worked so hard to achieve.

Jay Rein
Bluebird Music

Gold Note Mediterraneo X

Gold Note, the company, was founded in the 1990s, before the launch of the brand in 2012, and its very first designs were turntables and tonearms. The Mediterraneo X was born out of the know-how developed over two decades. As Ken thoroughly describes it, the design philosophy behind the X is not based on a single principle but rather the result of several core concepts applied to our most iconic turntable, from the choice of materials and shapes to the mechanical engineering. To achieve this level of performance, we worked to improve on the original design—the Mediterraneo turntable, launched in 2017—with incremental gains in every area. Some of the improvements are quite dramatic, such as the use of solid aluminum for the top plinth and platter for higher mass, and the touchscreen display that allows listeners to track the playing time of the cartridge. Others are invisible to the eye,

for example the variable-torque motor, which allows the listener to select the desired torque. All these incremental gains contribute to making the Mediterraneo X our new flagship turntable.

Maurizio Aterini, Founder & CEO
Gold Note

Rogue Audio DragoN

On Behalf of Rogue Audio, I would like to thank Jason Davis for his terrific review of our new DragoN monoblock amplifiers. Thanks also to John Atkinson for his supporting test measurements. From the outset, our design goal was to create a high-powered monoblock that combines solid state punch with the nuance of tube amplification. We believe this hybrid design offers the best of both worlds and will appeal to critical listeners from all corners of the musical spectrum.

In his review, Jason found that "The Class-D power and dynamics spoke to the younger me, who craves those overwhelming sensations that result, above all, from loudness, and the today me who appreciates the DragoNs' excellence at bringing less dynamic music to life at lower volumes." I would say that pretty well describes our initial design goals. As Jason put it, "There's much to love here."

Nick Fitzimmons
Rogue Audio

MY BACK PAGES

BY PHIL BRETT

THIS ISSUE: England's 1980s Scottish Invasion.

How Scottish Indy put fun back in my life

There's a famous quote by Lenin, that revolutions cannot stand still; they have to move forward. I'm guessing he wasn't talking about the British punk explosion, but it's applicable. There was a period of time around 1978—when that initial Sex Pistols thrill had subsided—when I thought it was stalling. The new bands started sounding dull, derivative. In all probability, I just had unreasonable demands: that a band should produce iconic albums weekly. I was 17, had just started work, and pretty much thought the world was there for my personal amusement.

Then from the pages of my holy book—*New Musical Express*—came news from Scotland. Shamefully, back then, my awareness of Scottish music began and ended with Nazareth and the Bay City Rollers. But the *NME* journos were excitedly talking about two new record labels recently set up north of Hadrian's Wall: Fast Product and Postcard.

Fast Product was an independent label, based in Edinburgh, set up by Bob Last and Hilary Morrison. Their aim was to create a concept around a single. Producing what they called "Mutant Pop," they wanted to create a label people trusted. It definitely worked with me: I would travel to my local record shop (the wonderful Bonaparte Records, now sadly gone) and ask for the latest release on Fast. Saturday mornings, there'd be a buzz. Usually I would arrive before the store opened. It was like a pilgrimage. Then I'd rush back to put the stylus on the vinyl.

The first releases on Fast Product weren't Scottish but from the north of England. The debut was "Never Been in a Riot" from The Mekons, who hailed from Leeds—as did Gang of Four, whose single "Damaged Goods" was released on Postcard in December. Postcard released "Being Boiled," by The Human League, in June. They were from Sheffield. (My geographical knowledge of the British Isles largely stems from my record collection.)

If so many of the second wave of punk were gangs of dour, Gang of Four et al. brought brightness. They weren't interested in being Pistols wannabees; their inspiration was the Velvet Underground, Bowie, Buzzcocks, even James Brown.

The Scars were the first Scottish band to appear on Fast. More interesting to me was an Edinburgh group on Last's other label, Pop: Aural: The Fire Engines. They set the scene ablaze, the Velvets meet Sly Stone. Anyone visiting me at that time heard "Candyskin," "Meat Whiplash," and "Big Gold Dream" replayed endlessly. Like many such bands, they exploded like a firework; for a brief moment, they lit up the sky. Then they fell to the ground. In just over a year, they split up. Decades later, Franz Ferdinand would cite them as an inspiration.

Postcard Records was set up in Glasgow by Alan Horne, with the aim of having a brand image like early Motown. (Their slogan was "The Sound of Young Scotland.") I bought every new Postcard single on the day of release, to get the hand-colored postcard that came with the first batch. I got lots of postcards. A large chunk of my weekly wage went to Scottish bands.

Postcard Records' debut release was Orange Juice's "Falling and Laughing," which heralded a run of thrilling 45s. Josef K followed. Josef K should have had international megasuccess. Josef K's "Sorry for Laughing" and "It's Kinda Funny" are perfect pop singles, up there with "I Heard It Through the Grapevine" and "Baby Love." Aztec Camera's first single, "Just Like Gold," followed a few months later.

The Scottish indie scene was breathing life into what would become known as post-punk. The size of my singles collection was increasing. I settled into a routine. I'd hear about a new release, a new band, or a new label—either from the *NME* singles page or the John Peel BBC radio show—then it was off to Bonaparte's. Even if I hadn't heard the single, if it was on a label I rated, I'd buy it. Peel was an institution, from back in the '60s; his show gave countless musicians a break. A sizable number of my personal faves are because of him.

Soon it seemed that everyone in Scotland was in a band. Quite a few—The Associates, Simple Minds, Cocteau Twins, Altered Images—enjoyed a degree of chart success. The streets of Edinburgh must have been filled with folk traveling to their day jobs in high-waisted trousers and Lou Reed sunglasses with a guitar slung over their shoulders.

Bob Last closed his labels, but he didn't end his quest to create pop stars. He moved into management, managing Scritti Politti, ABC, Heaven 17, and the Human League. In 1982, the Human League, from Sheffield, breached the US singles fortress with "Don't You Want Me," reaching number 1. The album, *Dare*, got to number 3.

For me, this was four years when music was genuinely exciting, searching out the latest new release of the newest bands, often not knowing what I would come home with but impatient to find out. Because of a group of musicians at the other end of the UK, pop music was no longer a dirty word. The single was king. Not since Glam had I so unashamedly reveled in it. Fun had returned to music. ■

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